



## **Electronics Corporation of Tamil Nadu Limited**

### **Rate Contract for Supply and Commissioning of Video Conferencing Systems with accessories**

**Tender Reference**  
**ELCOT/Networks/32597/VCS/2013-14**  
**Advertised on 21.06.2013**

### **Tender Document**

### **Electronics Corporation of Tamil Nadu Limited**

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Chennai-600035

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**Importance Notice**

**Applicability of Tamil Nadu Transparency in Tenders Act 1998**

This Tender process will be governed by The Tamil Nadu Transparency in Tenders Act 1998 and The Tamil Nadu Transparency in Tenders Rules, 2000 (Website link <http://www.tn.gov.in/gorders/fin446-e.htm>) as amended from time to time.

In case of any conflict between the terms and conditions in the tender document and the Tamil Nadu Transparency in Tenders Act 1998 and the Tamil Nadu Transparency in Tenders Rules 2000, the Act and Rules shall prevail.

<b>Acronyms used in the Document</b>	
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AMC	Annual Maintenance Contract
BG	Bank Guarantee
CST	Central Sales Tax
DD	Demand Draft
EMD	Earnest Money Deposit
HD	High Definition
HDCP	High Definition Continuous Presence
HDMI	High Definition Multimedia Interface
INR	Indian Rupees
IS	Indian Standard
ISO	International Organization for Standardization
ISDN	Integrated Services Digital Network
IT	Information Technology
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LD	Liquidated Damage
LOA	Letter of Acceptance
LOI	Letter of Indent
MCU	Multi Control Unit
SD	Security Deposit
SSI	Small Scale Industries
TNSWAN	Tamil Nadu State Wide Area Network
VAT	Value added TAX
VCS	Video Conferencing System

### Know Your Rights

1. ALL TENDERS WILL BE OPENED ONLY IN THE PRESENCE OF THE BIDDERS.
2. THE BIDDERS HAVE A RIGHT TO INSIST ON PROCESSING OF TECHNICAL BIDS IN THE BIDDERS PRESENCE ONLY.
3. PRICE BID OPENING AND PRICE COMPARISON WILL BE DONE ONLY IN THE PRESENCE OF THE TECHNICALLY QUALIFIED BIDDERS.
4. VENDORS / BIDDERS ARE ELIGIBLE FOR A VENDOR SIGNED COPY OF THE PRICE BID COMPARISON STATEMENT ON THE SPOT.
5. PLEASE INSIST ON YOUR RIGHTS AND AVAIL THE SAME.

**MANAGING DIRECTOR  
ELCOT**

**Letter of Undertaking**

To

The Managing Director  
Electronics Corporation of Tamil Nadu Limited  
692 Anna Salai,  
Nandanam, Chennai-600035

Sir,

Sub: Undertaking for participating in ELCOT's Tender - Reg.

Ref: Tender No. ELCOT/Networks/32597/VCS/2013-14

dated 15.07.2013

I/We ----- have gone through the Terms and Conditions, Scope of Work and Specification and will abide by them as laid down (Tender Documents, Technical bid and Price Bid)

I/We ----- hereby confirm that our Company was not blacklisted by any State Government/ Central Government/ Public Sector Undertakings during the last three years. We also hereby confirm that our EMD/SD was not forfeited by any State Government / Central Government / Public Sector Undertakings during the last three years due to our non-performance, non-compliance with the tender conditions etc.

I/We ----- hereby declare that all the particulars furnished by us in this Tender are true to the best of my/our knowledge and we understand and accept that if at any stage, the information furnished is found to be incorrect or false, we are liable for disqualification from this tender and also are liable for any penal action that may arise due to the above.

I/We ----- certify that no refurbished components are used for Supply and Commissioning of Video Conferencing Systems with accessories. The tendered items to be delivered under this contract are certified as genuine and valid.

I/We \_\_\_\_\_ certify that we are liable and responsible for any disputes arising out of Intellectual Property Rights.

**In case of violation of any of the conditions above, I/We understand that I/ We are liable to be blacklisted by ELCOT for a period of three years.**

Yours faithfully

for \_\_\_\_\_

Name, Signature

Designation

Seal

**Note:**

- 1) Declaration in the company's letter head should be submitted as per format given above
- 2) If the bidding firm has been blacklisted by any State Government/ Central Government/ Public Sector Undertakings earlier, then the details should be provided.

## 1. Preamble

Electronics Corporation of Tamil Nadu Limited (ELCOT), a wholly owned Government of Tamil Nadu Undertaking is the Optional Procurement Agency of the Government of Tamil Nadu for procurement of IT related products like Computers, Printers, other peripherals and software as per G.O.Ms.No.58 of Finance (BPE) Department dated 16.2.1999 with latest amendments. ELCOT is procuring various IT related products for all the State Government Departments / Boards / Autonomous Bodies, etc.

Currently ELCOT has received request letter from Hon'ble Chief Minister Office, Chennai Corporation and Various Government Departments to setup Video Conferencing facility on the TNSWAN/ISDN Network. The proposed Offices which require Video conferencing setup facility in due course is as given below.

- Honorable Chief Minister Office, Press Conference Room, Secretariat, Chennai
- Corporation of Chennai
- Commissioner of Treasuries and Accounts, Saidapet, Chennai
- Social Defence Department, Kilpauk, Chennai

Tamil Nadu State Wide Area Network (TNSWAN) is operational in the state covering 708 POPs (Point of Presence) across Tamil Nadu. It is two tier architecture. Tier 1 connects the State Network Operating Centre (NOC) at ELCOT, Perungudi, Chennai with the District Collectorates (30) through 8 Mbps channel and connects the State Secretariat & Government Complexes through 8 Mbps fibre ring. Tier 2 connects the District Collectorates with the respective Revenue Division Offices(73)/Taluks(208)/Blocks(385) through 2 Mbps channel

and wherever TNSWAN network is not available connectivity will be made through ISDN networks obtained from Service providers.

As part of the procurement activities with the above background, ELCOT invites bids for Supply and Commissioning of Video Conferencing Systems with accessories for various Government Departments through TNSWAN Network for which a **Rate Contract is called for in this tender.**

**Short Titles used in the Tender Document:**

<b>1</b>	<b>Bidder</b>	Bidder means the party who makes a formal offer in pursuance of the tender floated.
<b>2</b>	<b>Successful Bidder</b>	Successful Bidder means the Bidder who becomes successful through the tender process.
<b>3</b>	<b>Day</b>	A day means a calendar day.
<b>4</b>	<b>Service Centre</b>	Service Centre means the centre or place, wherein the Bidder, inter alia undertakes and performs the service activities relating to the Video Conferencing equipments with accessories indicated in the tender and shall include a <u>Direct service centre or Authorised dealer or Franchisee service centre of the bidder</u> :
<b>5</b>	<b>Life Cycle Cost</b>	Life Cycle Cost means the total cost to be incurred by the purchaser towards the purchase, supply and Commissioning of Video Conferencing equipments with accessories for the period of three years during warranty period and also charges to be incurred by the purchaser towards maintenance of Video Conferencing equipments with accessories for the subsequent period of 4 <sup>th</sup> and 5 <sup>th</sup> year.
<b>6</b>	<b>Purchaser</b>	Purchaser means the end-user for whom the procurement is indented through the tender.
<b>7</b>	<b>Commissioning</b>	Commissioning means that the Successful Bidder should coordinate with the service provider and install the Video conferencing equipment at the site with performance satisfactory to the purchaser.

## 2. Tender Schedule

### ELECTRONICS CORPORATION OF TAMILNADU LIMITED (ELCOT)

<b>1.</b>	Tender inviting Authority, Designation and Address	The Managing Director ELCOT, II Floor MHU Complex 692 Anna Salai, Nandanam, Chennai-600035. e-mail: <a href="mailto:ramesh@elcot.in">ramesh@elcot.in</a> , <a href="mailto:md@elcot.in">md@elcot.in</a> and <a href="mailto:lg@elcot.in">lg@elcot.in</a> , URL: <a href="http://www.elcot.in">www.elcot.in</a>
<b>2.</b>	A) Name of the Work	Rate Contract for Supply and Commissioning of Video Conferencing Systems with accessories for Various Government Departments.
	B) Tender reference	<b>ELCOT/Networks/32597/VCS/2013-14</b>
	C) Place of execution	Throughout the State of Tamil Nadu
<b>3.</b>	Tender documents available place	On all working days between 11.00 AM and 3.00 PM upto 12.07.2013 from the Address mentioned in Row (1) above. Alternatively, Tender documents can be downloaded free of cost from <a href="http://www.elcot.in">www.elcot.in</a> and <a href="http://www.tenders.tn.gov.in">http://www.tenders.tn.gov.in</a>
<b>4.</b>	Cost of Tender Document	INR 1,100/- per Tender Document for direct purchase from ELCOT. The Tender document fee is waived for the downloaded Tender document.
<b>5.</b>	Earnest Money Deposit (EMD)	<b>Rs.1,50,000/- (Rupees One Lakh Fifty thousand only)</b> should be paid by way of Demand Draft or Banker's Cheque drawn in favour of "Electronics Corporation of Tamil Nadu Limited" and payable at Chennai only.
<b>6</b>	Tender submission	Two Part Tender comprising of Technical Bid and Price Bid should be submitted <b>MANUALLY</b> . Stage-1 – Technical Bid, Stage-2 – Price Bid opening. Tenders received after the due date and time will be summarily rejected.
<b>7.</b>	Date and Place of Pre-Bid meeting	27.06.2013 @ 03.00 P.M at ELCOT, II Floor MHU Complex 692 Anna Salai, Nandanam, Chennai-600035.
<b>8.</b>	Due Date, Time and Place of submission of Tender	On 15.07.2013 at 3.00 PM at the address mentioned in Row (1) above.
<b>9.</b>	Date, Time and Place of opening of the Technical Bids	On 15.07.2013 at 3.15 PM at the address mentioned above
<b>10.</b>	Date, Time and Place of opening of Price Bids	Will be intimated only to the Technically Qualified Bidders

### 3. General Instructions

#### 3.1 General

- a) The Bidders are requested to examine the instructions, terms and conditions and specifications given in the Tender. Failure to furnish all required information in every respect will be at the Bidder's risk and may result in the rejection of bid. Relaxation in submission of the documentary proof had been given ONLY to the existing suppliers and such relaxation from submission of documents is applicable wherever they are eligible to avail.
- b) It will be imperative for each Bidder(s) to familiarise itself/ themselves with the prevailing legal situations for the execution of contract. ELCOT shall not entertain any request for clarification from the Bidder regarding such legal aspects of submission of the Bids.
- c) It will be the responsibility of the Bidder that all factors have been investigated and considered while submitting the Bids and no claim whatsoever including those of financial adjustments to the contract awarded under this tender will be entertained by ELCOT. Neither any time schedule nor financial adjustments arising thereof shall be permitted on account of failure by the Bidder to appraise themselves.
- d) The Bidder shall be deemed to have satisfied itself fully before Bidding as to the correctness and sufficiency of its Bids for the contract and price quoted in the Bid to cover all obligations under this Tender.
- e) It must be clearly understood that the Terms and Conditions and

specifications are intended to be strictly enforced. No escalation of cost in the Tender by the Bidder will be permitted throughout the period of Agreement or throughout the period of completion of contract whichever is later on account of any reasons whatsoever.

- f) The Bidder shall make all arrangements as part of the contract to supply, commission and train the beneficiaries at various locations at their own cost and transport.
- g) The Bidder should be fully and completely responsible to ELCOT and State Government for all the deliveries and deliverables.

### **3.2 Clarifications in the Tender**

- a) A prospective Bidder requiring any clarification in the Tender may notify ELCOT by letter or by Fax or by E-mail as per the Format prescribed in Appendix – 3 to [md@elcot.in](mailto:md@elcot.in) with a copy to [lg@elcot.in](mailto:lg@elcot.in), and [ramesh@elcot.in](mailto:ramesh@elcot.in). We encourage paper free e-mail communication.
- b) The responses to the clarifications will be notified in the websites by means of Corrigendum to the Tender Document. It would be advantageous to commence e-mail contact with [lg@elcot.in](mailto:lg@elcot.in), [ramesh@elcot.in](mailto:ramesh@elcot.in) to register your e-mail id.

### **3.3 Amendments to the Tender**

- a) Before closing of the Tender, clarifications and amendments if any will be notified in the websites mentioned in the e-Tender Schedule. The Bidders should periodically check for the amendments or corrigendum or information in the websites till the closing date of this Tender. ELCOT will not make any individual

communication and will in no way be responsible for any ignorance pleaded by the Bidders.

- b) No clarifications would be offered by ELCOT within 48 hours prior to the due date and time for opening of the Tender.
- c) Before the closing of the Tender, ELCOT may amend the Tender document as per requirements or wherever ELCOT feels that such amendments are absolutely necessary.
- d) Amendments may also be given in response to the queries by the prospective Bidders.
- e) Such amendments will be notified in the websites mentioned in the e-tender schedule.
- f) ELCOT at its discretion may or may not extend the due date and time for the submission of bids on account of amendments.
- g) ELCOT is not responsible for any misinterpretation of the provisions of this tender document on account of the Bidders' failure to update the Bid documents on changes announced through the website.

### **3.4 Language of the Bid**

The bid prepared by the Bidder as well as all correspondence and documents relating to the bid shall be in English only. The supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation in English duly notarised, in which case, for all purposes of the bid, the translation shall govern. Bids received without such translation copies are liable to be rejected.

### 3.5 Bid Currency

Price should be quoted in Indian Rupees (INR) only and Payment shall be made in Indian Rupees only.

### 3.6 Contacting Tender Inviting Authority

- a) Bidders shall not make attempts to establish unsolicited and unauthorised contact with the Tender Accepting Authority, Tender Inviting Authority or Tender Scrutiny Committee after the opening of the Tender and prior to the notification of the Award and any attempt by any Bidder to bring extraneous pressures on the Tender Accepting Authority and / or the Officials of ELCOT shall be sufficient reason to disqualify the Bidder.
- b) Notwithstanding anything mentioned above, the Tender Inviting Authority or the Tender Accepting Authority may seek bonafide clarifications from Bidders relating to the tenders submitted by them during the evaluation of tenders.

### 3.7 Force Majeure

Neither the Purchaser / ELCOT nor the Successful Bidder shall be liable to the other for any delay or failure in the performance of their respective obligations due to causes or contingencies beyond their reasonable control such as:

- Natural phenomena including but not limited to earthquakes, floods and epidemics.
- Acts of any Government authority domestic or foreign including but not limited to war declared or undeclared, priorities and quarantine restrictions.
- Accidents or disruptions including, but not limited to fire, explosions, breakdown of essential machinery or equipment, power

and water shortages.

### 3.8 Arbitration

Except as otherwise provided elsewhere in the contract, if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, at any time in connection with construction, meaning, operation, effect, interpretation or out of the contract or breach thereof, the same shall be decided by Sole Arbitrator to be appointed by the Managing Director of ELCOT.

If the Arbitrator so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, another Arbitrator shall be appointed by the Managing Director of ELCOT. The Arbitrator so appointed shall proceed with the reference from the stage, where his predecessor had left if both parties consent for the same, otherwise, he shall proceed de novo.

It is a term of the contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter.

It is also a term of the contract that neither party to the contract shall be entitled to seek interest and the arbitrator should not grant interest.

The Arbitral Tribunal shall give reasoned award and the same shall be final, conclusive and binding on the parties.

The venue of the arbitration shall be Chennai and language English.

The fees of the Arbitrator and expenses incidental to the arbitration proceedings shall be borne equally by the parties.

Subject to as aforesaid, the provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment in lieu thereof shall apply to the arbitration proceedings under this Clause.

Subject to the above, the Courts in Chennai alone shall have jurisdiction in this matter.

#### **4. Eligibility Criteria**

The Bidder(s) should meet the following Eligibility Criteria to participate in the Tender and should enclose documentary proof for fulfilling the Eligibility in the Technical Bid.

#	<b>Eligibility Conditions</b>	<b>Documentary Proof to be submitted</b>
1.	Bidder should be a Registered Company in India and should be in the Information Technology business for 3 Years as on 31/03/2013	<p>a) Copy of the Certificate of Registration or Partnership Agreement or certificate issued by any statutory authority should be submitted.</p> <p>b) Copy of the work order dated before 31/03/2010 obtained from the customer or agreement signed dated before 31/03/2010 with the customer for any IT Products should be submitted.</p>
2.	Bidder should have an average annual turnover of Rs. 1.5 Crores in any three financial years 2009-10, 2010-11, 2011-12 & 2012-13	Copies of the Audited balance sheet for the last three financial years should be submitted.
3.	Bidder should have executed at least one Single Order for the Supply and Commissioning of Video Conferencing equipments with accessories /Multipoint Control Unit of value of Rs. 10 Lakhs or more executed during any one of the previous three financial years. (2010-11, 2011-12 & 2012-13)	Copy of Single work order or Agreements and Completion Certificate from the customers
4.	The Bidder may be a OEM or their authorised distributors or dealers.	a) For OEM's copy of the Manufacturing License shall be submitted

		b) For authorised distributors or dealers, the dealer Certificate or manufacturer's authorisation letter should be submitted.
5.	Bidder shall have local office in Tamilnadu.	Copy of the rent receipt or telephone bills dated on or before 31/03/2010
6.	Bidder should have at least two service centres in Tamilnadu. The service centre may be run by manufacturer or Franchise or authorised distributors/dealers	Land-line telephone bills or rent agreement or agreement signed with the franchise dated before 31/03/2012 should be submitted as a proof for availability of the service centre.

**Important Note:**

Bidders should ensure that they have submitted all the required proof documents as specified in the Tender document without fail. Bids received without supporting documents to prove their Eligibility are liable for rejection.

## 5. Bid Preparation and Submission

### 5.1 Cost of Bidding

The Bidders should bear all costs associated with the preparation and submission of Bids. ELCOT will in no way be responsible or liable for these charges/costs incurred regardless of the conduct or outcome of the bidding process.

### 5.2 Tender Document Fee

- a) The Tender Documents may be directly purchased from ELCOT on payment of fees as mentioned in the Tender Schedule. The Tender document cost may be paid by way of Demand Draft / Banker's Cheque in favour of "Electronics Corporation of Tamil Nadu Limited", payable at Chennai.
- b) Alternatively the Tender Documents can be downloaded free of cost from the websites mentioned in the Tender Schedule. The Tender document fee is waived for such downloaded documents.

### 5.3 Earnest Money Deposit (EMD)

- a) An EMD amount as specified in the Tender Schedule should be paid by way of Demand Draft or Banker's Cheque drawn in favour of "Electronics Corporation of Tamil Nadu Limited" payable at Chennai. The Demand Draft or Banker's Cheque should be deposited physically at ELCOT before the date and time of opening of the Tender. The EMD in the form of Bank Guarantee is not acceptable.

- b) The EMD of the unsuccessful Bidders will be returned at the expense of the Bidders within a reasonable time consistent with the rules and regulations in this behalf. The EMD amount held by ELCOT till it is refunded to the unsuccessful Bidders will not earn any interest thereof.
- c) The EMD amount of the Successful Bidder can be converted as part of the Security Deposit (SD) for successful execution of the work and will be returned only after the successful fulfilment of the Contract.
- d) The EMD amount will be forfeited to ELCOT, if the Bidder withdraws the bid during the period of its validity specified in the tender or if the successful Bidder fails to remit Security Deposit and / or fails to sign the Contract within the due dates.

#### **5.4 Letter of Authorisation**

A letter of Authorisation from the Board of Directors / appropriate authority authorising the Tender submitting authority or a Power of Attorney should be submitted in the Technical bid, otherwise the Bids will be summarily rejected.

#### **5.5 Two Part Bidding**

Bidders should examine all instructions, Terms, Conditions and Technical specifications given in the Tender document. Failure to furnish information required by the Bid or submission of a Bid not substantially responsive in every respect will be at the Bidder's risk and may result in rejection of Bids. Bidders should strictly submit the Bid as specified in the Tender, failing which the bids will be non-responsive and will be rejected.

### 5.5.1 Technical Bid (Envelope-A)

- a) The Technical Bid format as given in the Tender shall be filled, signed and stamped on all pages. Errors if any shall be attested by the Bidders. The Technical Bid shall not contain any indications of the Price, otherwise the Bid will be summarily rejected.
- b) The Technical Bids shall be typed, signed and stamped in all pages by the authorised signatory of the Bidder. Any alterations, deletions or overwriting shall be attested with full signature of the authorised signatory.
- c) The Technical Bid with supporting documents and the EMD cover should then be put in a separate cover and sealed appropriately. The Technical Bid cover should be superscribed as "Technical Bid (Envelope-A) for Supply and Commissioning of Video Conferencing Systems with accessories for Various Government Departments. On Contract basis – Tender No. \_\_\_\_\_ Due on \_\_\_\_\_. The "FROM Address" and "TO Address" should be clearly written in the cover otherwise the Bid is liable for rejection.
- d) The bidders should submit the details of make and model of the items offered against the tender requirement.

### 5.5.2 Price Bid Form (Envelope-B)

- a) All the Price items as asked in the Tender should be filled in the Price Bid Format as given in the Tender.
- b) The price quoted by the Bidder shall include cost and expenses on

all counts viz. cost of equipment, materials, tools/ techniques/ methodologies, manpower, supervision, administration, overheads, travel, lodging, boarding, in-station & outstation expenses, etc and any other cost involved in the supply and commissioning.

- c) The Price Bid Form should not contain any conditional offers or variation clauses; otherwise the Bids will be summarily rejected.
- d) The Prices quoted shall be only in **INDIAN RUPEES (INR) only**. The tender is liable for rejection if Price Bid contains conditional offers.
- e) The Price Bid shall be typed and shall be signed by the authorised signatory in all pages. Any alterations, deletions or overwriting shall be attested with full signature of the authorised signatory.
- f) The cost quoted by the Bidder shall be kept firm for a period specified in the Tender from the date of opening of the tender. The Bidder should keep the Price firm during the period of Contract including during the period of extension of time if any. Escalation of cost will not be permitted during the said periods or during any period while providing services whether extended or not for reasons other than increase of duties / taxes payable to the Governments in India within the stipulated delivery period. The Bidders should particularly take note of this factor before submitting the Bids.
- g) The Price Bid shall be placed in a separate cover (Envelope-B) and sealed appropriately. The Price Bid cover shall be superscribed as "Tender for Supply and Commissioning of Video Conferencing Systems with accessories for Various Government Departments on Contract basis – Tender Ref.: **ELCOT/Networks/32597/VCS/2013-14** due on -----@ 3.00 PM". The "FROM" address and "TO" address

shall be written without fail otherwise the Price Bid is liable for rejection.

### **5.7 Bid closing date and time**

The Bids should be submitted not later than the date and time specified in the Tender Schedule or Corrigendum if published. Even if the Bid submission is in half way through during the closing date and time, submission would not be possible. Hence the Bidders should be cautious to submit the Bids well in advance to avoid disappointments.

#### **5.7.1 Outer Cover**

The Technical Bid cover including EMD cover (Envelope-A) and Price Bid cover (Envelope-B) shall then be put in a single outer cover and sealed appropriately by use of sealant. The outer cover shall be superscribed as "Supply and Commissioning of Video Conferencing Systems with accessories for Various Government Departments on Contract basis – Tender Ref.: **ELCOT/Networks/32597/VCS/2013-14** due on ----- @ 3.00 PM". The "FROM" address and "TO" address shall be written without fail otherwise the Technical Bid is liable for rejection.

### **5.8 Mode of Submission of Bids**

- a) The Bids should be submitted strictly as specified in the Tender document. The Bids should be dropped in the Tender box kept at ELCOT, MHU Complex II Floor, 692, Anna Salai, Nandanam, Chennai- 600 035 on or before the due date and time. The Bids will not be received personally.

- b) If the Bidder prefers to submit the Bid by post, the Bidder should ensure that the Bid reaches the Managing Director, ELCOT on or before the due date and time. ELCOT will not be liable or responsible for any postal delay or any other delay whatsoever.
- c) If any Bid is received after Due Date and Time or unsealed or disorderly submitted or received by Facsimiles (FAX), the Bid will be treated as non responsive.

### **5.9 Modification and withdrawal of Bids**

The Bids once submitted cannot be modified or amended or withdrawn. No documents would be supplemented after submission of Bids.

## 6. Tender opening and Evaluation

### 6.1 Technical Bid Opening

The Technical Bid will be opened on the date and time as specified in the Tender schedule in the presence of those Bidders, who choose to be present against production of an authorisation letter from the Bidding authority. A maximum of two representatives for each Bidder would be allowed to attend the Tender opening.

### 6.2 Tender Validity

- a) The offer submitted by the Bidders should be valid for a minimum period of 180 days from the date of opening of the Tender.
- b) The Successful Bidders should keep the Price firm during the period of Contract including during the period of extension of time if any. Escalation of cost will not be permitted during the said periods or during any period while providing services whether extended or not for reasons other than increase in duties/taxes payable to the Governments in India within the stipulated delivery period.
- c) In exceptional circumstances, ELCOT may solicit the Bidders to extend the validity. The Bidder should extend price validity and Bid security validity.

### 6.3 Initial Scrutiny

Initial Bid scrutiny will be conducted and incomplete details as given below will be treated as non-responsive.

If Tenders are;

- not submitted in two parts as specified in the Tender
- received without the Letter of Authorisation
- received without EMD amount

- found with suppression of details
- Incomplete information, subjective, conditional offers.
- submitted without support documents as per the Eligibility Criteria and Evaluation Criteria
- non-compliance of any of the clauses stipulated in the Tender
- lesser validity period

All responsive Bids will be considered for further evaluation. The decision of ELCOT will be final in this regard.

#### **6.4 Clarifications by ELCOT**

When deemed necessary, ELCOT may seek bonafide clarifications on any aspect from the Bidder. However, that would not entitle the Bidder to change or cause any change in the substance of the Bid or price quoted. During the course of Technical Bid evaluation, ELCOT may seek additional information or historical documents for verification to facilitate decision making. In case the Bidder fails to comply with the requirements of ELCOT as stated above, such Bids may at the discretion of ELCOT, be rejected as technically non-responsive.

#### **6.5 Tender Evaluation**

##### **6.5.1 Suppression of facts and misleading information**

- a) During the Bid evaluation, if any suppression or misrepresentation is brought to the notice of ELCOT, ELCOT shall have the right to reject the Bid and if after selection, ELCOT would terminate the contract, as the case may be, the rejection/ termination will be without any compensation to the Bidder and the EMD / SD, as the case may be, shall be forfeited.

- b) Bidders should note that any figures in the proof documents submitted by the Bidders for proving their eligibility is found suppressed or erased, ELCOT shall have the right to seek the correct facts and figures or reject such Bids.
- c) It is up to the Bidders to submit the full copies of the proof documents to meet out the criteria. Otherwise, ELCOT at its discretion may or may not consider such documents.
- d) The Tender calls for full copies of documents to prove the Bidder's experience and capacity to undertake the project.

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#### 6.5.2 Technical Bid Evaluation

- a) A Technical Committee will examine the Technical Bids against the Eligibility Criteria and Evaluation Criteria given in the Tender document. The evaluation will be conducted based on the support documents submitted by the Bidders. The documents which did not meet the eligibility criteria in the first stage of scrutiny will be rejected in that stage itself and further evaluation will not be carried out for such bidders. The eligible Bidders alone will be considered for further evaluation.
- b) The sample submitted will be evaluated for the tender specification as given in the Scope of work to select the technically qualified bidder.
- c) For those Bidders who have already worked or working with ELCOT, their previous performance in ELCOT would be the mandatory criteria for selection. If any unsatisfactory performances of those Bidders are found, their Bids will be straight away rejected. The Unsatisfactory performance is defined as

- 1) Non responsiveness after getting the Purchase order
- 2) Delay in supply, installation of the ordered items etc.
- 3) Lack of communication about the delay in deliveries,  
Installation etc.

### 6.5.3 Price Bid Evaluation

- a) The technically qualified Bidders only will be called for Price Bid opening. The Price Bids will be opened in the presence of the technically qualified Bidders who choose to be present at ELCOT.
- b) The Price Bid evaluation will be conducted as stipulated in the Tamil Nadu Transparency in Tenders Act 1998 and Tamil Nadu Transparency in Tenders Rules 2000 with latest amendments. All the cost in the Price Bid will be added and evaluated.
- c) In respect of VAT, where all the bidders are from within the State of Tamil Nadu or where all the bidders are from outside the State of Tamil Nadu, the VAT will be included in the price bid evaluation.

(OR)

Where the bidders are from the State of Tamil Nadu as well as from outside the State of Tamil Nadu, the Value Added Tax (VAT) shall be excluded, but Central Sales Tax (CST) shall be included for evaluation.

- d) Price bid will be evaluated based on the Life Cycle Cost indicated in the tender. The lowest cost as per the above evaluation will be considered as L1 cost. ELCOT will not be responsible for any errors committed in the Price Bid. ELCOT will negotiate with the lowest cost offered Bidder (L1 Bidder) for further reduction of the price. ELCOT reserves the right to ask other Bidders to match L1

cost as this is the rate contract. The prices will be evaluated as follows and decision of ELCOT will be the final.

- e) The bidder should quote for all the items mentioned in the tender Document. **Partial bid is not allowed.** Failure to submit the offer / price for all the items or **partial offer will be liable for rejection of the bid itself.**
- f) All the Bidders, who are selected after the Price Bid evaluation will be called as Successful Bidders.

## 6.6 Negotiations

Negotiations will be conducted with all the Successful Bidders for improvement in the Scope of Work, Specification, further reduction in price and advancement of delivery schedule.

## 6.7 Award of Contract

- 1) Total quantity will be apportioned among the L1 Bidder and other Bidders who have agreed to match L1 rate, as per the provisions of Tamil Nadu Transparency in Tenders Act, 1998 and the Tamil Nadu Transparency in Tenders Rules, 2000 as amended from time to time and Terms and Conditions of the Tender.
- 2) No dispute can be raised by any Bidder whose Bid has been rejected and no claims will be entertained or paid on this account.

## 6.8 ELCOT reserves the right to:

- 1. Negotiate with the Bidder whose offer is the lowest evaluated price for further reduction of prices.
- 2. Insist on quality / specification of materials to be supplied.

3. Modify, reduce or increase the quantity requirements to an extent of the tendered quantity as per the provisions of Tamil Nadu Transparency in Tenders Act 1998 and Tamil Nadu Transparency in Tenders Rules, 2000 as amended from time to time.
4. Change the list of areas of supply locations from time to time based upon the requirement of the purchase.
5. Ask other qualified Bidders to match the L1 price as this is a rate contract tender.
6. If delivery performance of the Bidder is not as per the Schedule, then ELCOT reserves the right to reallocate the quantity to other Bidder.
7. ELCOT reserves its right to inspect the bidders' factory facilities before or after placement of orders and based on the inspection, ELCOT reserves a right to modify the quantity ordered.
8. ELCOT reserves its right to withhold any amount for the deficiency in the service aspect of the ordered items supplied to the customers.

## 7. Execution of Work

### 7.1 Acceptance of Tender and Withdrawals

The final acceptance of the tender is entirely vested with ELCOT who reserves the right to accept or reject any or all of the tenders in full or in parts without assigning any reason whatsoever. The Tender Accepting Authority may also reject all the tenders for reasons such as change in Scope, Specification, lack of anticipated financial resources, court orders, calamities or any other unforeseen circumstances. After acceptance of the Tender by ELCOT, the Successful Bidder shall have no right to withdraw their tender or claim higher price.

### 7.2 Letter of Acceptance (LOA)

After acceptance of the Tender by ELCOT, a Letter of Acceptance (LOA) will be issued to the Successful Bidder(s) by ELCOT. Under this rate contract, ELCOT has the right to issue LOA to more than one bidder.

### 7.3 Payment of Security Deposit (SD)

The Successful Bidder will be required to remit a Security Deposit (SD) equivalent to **Five** percent of the value of the order, inclusive of EMD by way of Demand Draft payable at Chennai or in the form of unconditional irrevocable Bank Guarantee valid for a period equivalent to the contract period from the date of acceptance of the tender on receipt of confirmation from ELCOT. **The SD shall be paid within 7 days from the date of issue Letter of Acceptance (LOA) by ELCOT.** The SD furnished by the Successful Bidder in respect of the tender will be returned to them after successful fulfilment of work. The Security Deposit will be refunded to the Successful Bidder only after successful completion of the work Order. The Security Deposit held by ELCOT till it is refunded to the

Successful Bidder will not earn any interest thereof.

The Security Deposit will be forfeited if the Successful Bidder withdraws the Bid during the period of Bid validity specified in the Tender or if the Bidder fails to sign the contract.

#### 7.4 Execution of Contract

- a) The Successful Bidder should execute a Contract in the INR 20 non-judicial Stamp Paper bought in Tamil Nadu in the name of the Bidder **within 7 days from the date of Letter of Acceptance issued by ELCOT** with such changes/modifications as may be indicated by ELCOT at the time of execution on receipt of confirmation from ELCOT.
- b) The successful bidder shall not assign or make over the contract, the benefit or burden thereof to any other person or persons or body corporate for the execution of the contract or any part thereof without the prior written consent of ELCOT. ELCOT reserves its right to cancel the work order either in part or full, if this condition is violated. If the Successful Bidder fails to execute the agreement, the SD of the Successful Bidder will be forfeited and their tender will be held as non-responsive.
- c) The expenses incidental to the execution of the agreement should be borne by the Successful Bidder.
- d) The conditions stipulated in the agreement should be strictly adhered to and violation of any of the conditions will entail termination of the contract without prejudice to the rights of ELCOT and ELCOT also have the right to recover any consequential losses from the Successful Bidder and thereafter the Successful Bidder will be referred to as successful bidder.

### **7.5 Release of Work Order**

After execution of the Contract and payment of Security Deposit, “**Firm Work Order**” for the supply and commissioning of Tendered items will be issued to the by ELCOT as and when requirement arises. The supply and payment will be based on the Work Order(s) issued from time to time.

### **7.6 Refund of EMD**

The EMD amount paid by the successful bidder will be adjusted towards Security Deposit payable by them. If the successful bidder submits Security Deposit for the stipulated value in full by way of Bank Guarantee, the EMD will be refunded. The EMD amount of the Unsuccessful Bidder will be refunded after finalisation and issue of Firm Work Order to the successful bidder.

### **7.7 Release of SD**

The Security Deposit will be refunded to the successful bidder on completion of entire supply subject to satisfaction of ELCOT. Such completion would be arrived at when the entire quantity is supplied by the Successful Bidder(s) as per the Contract Agreement and as per Work Order(s) issued by ELCOT from time to time.

### **7.8 Forfeiture of EMD and SD**

- a) If the Successful Bidder fails to remit the SD, the EMD remitted by him will be forfeited to ELCOT and the tender will be held void.
- b) If the successful bidder fails to act up on to the tender conditions or backs out from the contract, the SD mentioned above will also be forfeited to ELCOT.

## 7.9 Termination of Contract

### 7.9.1 Termination for default

- a) ELCOT may without prejudice to any other remedy for breach of contract, by written notice of default with a notice period of 7 days, sent to the successful bidder, terminate the contract in whole or part, (i) if the successful bidder fails to deliver any or all of the goods within the time period(s) specified in the Contract, or fails to supply the items as per the Delivery Schedule or within any extension thereof granted by ELCOT; or (ii) if the successful bidder fails to perform any of the obligation(s) under the contract; or (iii) if the successful bidder, in the judgement of ELCOT, has engaged in fraudulent and corrupt practices in competing for or in executing the Contract.
- b) In the event of ELCOT terminating the Contract in whole or in part, ELCOT may procure, upon terms and in such manner as it deems appropriate, the goods and services similar to those and delivered and the successful bidder shall be liable to ELCOT for any additional costs for such similar goods. However, the successful bidder shall continue the performance of the contract to the extent not terminated.

### 7.9.2 Termination for Insolvency

ELCOT may at any time terminate the Contract by giving written notice with a notice period of 7 days to the successful bidder, if the successful bidder becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the successful bidder, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to ELCOT.

### **7.9.3 Termination for Convenience**

ELCOT may by written notice, with a notice period of seven days sent to the successful bidder, terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for ELCOT's convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective. On termination, the successful bidder is not entitled to any compensation whatsoever.

### **7.10 Execution of Work Order**

The successful bidder should nominate and intimate ELCOT, an Account Manager for Single Point of Contact (SPOC), who should be responsible for effective delivery of work complying with all the terms and conditions. The successful bidder should ensure that the Account Manager fully familiarises with the Tender Conditions, Scope of Work and deliverables.

### **7.11 Assigning of Tender whole or in part**

The successful bidder shall not assign or make over the contract, the benefit or burden thereof to any other person or persons or body corporate. The Bidder should not under-let or sublet to any person(s) or body corporate for the execution of the contract or any part thereof without the prior written consent of ELCOT.

**7.12 Liquidated Damages (LD)**

A penalty will be levied at the rate of 0.25% of the Work Order value per day subject to a maximum of 10% for non-fulfilment of delivery schedule subject to Force Majeure conditions. If the work is not completed in full even after 40 days period, such performance may entail termination of contract and black listing of the Bidder from participating in any of the ELCOT's Tenders. This alone will not relieve the Bidder and the difference in cost of the items purchased through other Technically qualified Bidders or any other alternative sources will be recovered from the successful bidder.

**7.13 Other Conditions**

- a) The final decision would be based on the technical capacity and pricing of the Bidder. ELCOT does not bind itself in selecting the bidder offering lowest prices.
- b) ELCOT reserves the right not to accept lowest price, to reject any or all the tenders without assigning any reason, to relax or waive any of the conditions stipulated in the terms and conditions of tender as deemed necessary in the best interest of ELCOT for good and sufficient reasons.

## 8. Scope of Work

The successful bidder is to undertake to Supply and Commissioning of Video Conferencing equipments with accessories to Various Government Departments in Chennai as well as across Tamilnadu. The detailed Scope of Work is given below.

- Supply and installation of 10 Port Multipoint Bridge to the Hon'ble CM Office Press Room at Secretariat, Chennai
- Supply and Installation of HD Video conferencing system to the Hon'ble CM Office Press Room at Secretariat, Chennai
- Supply and Installation of 110 inch Video wall Display with Floor Stand, Wall Mount bracket to the Hon'ble CM Office Press Room at Secretariat, Chennai
- Supply and Installation of UPS, 27U Rack, laptop , HDMI switcher and other accessories to the Hon'ble CM Office Press Room at Secretariat, Chennai
- Supply of Installation of HD video conferencing system, Display, Audio Systems, Network Item & other related accessories to various Government Departments in Tamilnadu.
- Provide Manpower to operate the supplied items of MCU, Video Conferencing & Video Wall

- The Vendor has to coordinate with the Government Department, TCS /BSNL and ELCOT during execution of the work (Supply, Installation, testing and Commissioning of the Video conferencing) as per the tender.
- The deputed Manpower (Engineer) should coordinate with NIC/BSNL/ TNSWAN authorities for Network connectivity and PWD for Audio system Connectivity and Third party vendors for Video coverage connectivity, recording etc and it should work flawless.
- Site survey to be carried out for Video conferencing systems at Client sites who request for Video conferencing facility and the Site survey report in a prescribed format should be submitted.
- Preparation and submission of complete Bill of Materials (BOM), location wise, along with detailed technical specifications including networking equipment and display systems.
- Interfacing with TNSWAN Operating Agency (TCS) / Bandwidth Provider (BSNL) for commissioning of network and Video conferencing facility.
- Preparation and submission of the details of the man power deployment for the project if required
- Dispatch of materials as per the schedule submitted. The materials should be brand new and as per the tender specifications / requirements.
- Preparation and submission of schedule for installation and testing for the

Video conferencing systems.

- The Installation report in a prescribed format should be submitted by the Vendor mentioning the serial nos of equipments supplied, Installation completion date, Training completion date and warranty expiry date
- User Manual of the video conferencing equipment as well as for accessories should to be handed over to the client.
- The Vendor shall set up a 24x7 help desk at Chennai to register the calls reported, to support the Video conferencing call compliant, numbers of the Network Integrator, desk numbers would be circulated amongst the Departments for raising services calls. All service calls raised shall be registered using Industry Standard Help Desk Software.
- The video conferencing system should be connected to any available Display systems (Colour TV, Plasma Display, LCD Display & LED Display as well as Projector if required) or the display system supplied along with the Tender Schedule.
- Installation should be done with UPS Power supply source only, if the same is not available, the Vendor should make a request to the user Department.
- If last mile connectivity is not available for TNSWAN network, user Department may go in for a 2 Mbps MLLN network or Leased line network from service providers to connect to the closet TNSWAN POP (Point of Presence), in such case the Vendor should integrate the Modem & router with client network as well as on the TNSWAN network to setup the Video

Conferencing facility.

- Provide comprehensive On-site Warranty for a period of 3 years, including replacement of parts for all the items supplied under this project.
- Maintain the equipment for two years after the expiry of the warranty under Annual Maintenance Contract.
- Training the Officials on the operations of the equipment and communications links and also about the troubleshooting methods.

A detailed document (User Manual) covering all the aspects are to be given.

### **8.1 Sample Submission**

- a) For each item quoted in the Tender, if required by ELCOT the samples should be submitted indicating the make, model number and brouchers / specification of the items for benchmark testing by ELCOT within two days as per Appendix-4 of the Tender.
- b) if required by ELCOT, Evaluation Samples are to be arranged by the Bidders for Evaluation either at ELCOT or anywhere in Chennai.

### **8.2 Special Concession for ELCOT approved products**

- a) If the samples of the tender specification has already been tested and approved by ELCOT in earlier tenders, then the Bidder need not submit those products for sample evaluation. The bidder shall provide the reference of the tender number and test reports.
- b) ELCOT reserves the right to call for samples again if need arises and to call for any other sample of any other item at any point of time.

### **8.3 Compliance with Technical Specifications**

All the Bidders should submit the items as asked for in the tender. The results and compliance statement would be prepared and evaluated. The samples of those Bidders, which do not conform to the technical specifications, the Bids of those Bidders will be rejected.

### **8.4 General**

- a) If the equipment supplied for evaluation meets the tender specifications, it would be treated that the equipment had passed the "specifications test". If the specifications are below the tender specifications, then the equipment would be treated as "failed" in the "specifications test". The bidders should take utmost care to bring in the samples which should be equal to or better than the specifications given in the tender documents.
- b) ELCOT reserves the right to reject a sample if it is found that it does not meet the specifications. However, if the bidder requests for submission of another sample, ELCOT reserves its right to offer one last opportunity to the bidder to produce another sample for evaluation, say within a short period of 2-3 days. Such a sample would be evaluated again.
- c) Offering this additional opportunity is solely at the discretion of ELCOT. ELCOT would be pleased to provide such an opportunity ONLY if public interest (healthy competition) demands such a step. In the normal course such an additional opportunity would not be given to the bidders.

## 8.5 Man Power

Generally certain departments require to operate the Video Conferencing Equipments with regular interval to interact with other departments through VCS. In this connection, we need a trained Man power with the qualification of Diploma in Electronics with minimum three years experience in the relevant field as and when required. Hence, the bidder should quote for the same as indicated in the price bid.

## 8.6 Supply, installation and Commissioning

- a) **Delivery:** The ordered items should be delivered, installed and commissioned within 30 days from the date of Purchase/Work Order.  
The Successful Bidders after obtaining the Consignee address should visit the sites to assess the readiness of the site for installation. A report in this respect should be submitted to ELCOT. ELCOT may advise the customer to prepare the site ready for installation.
- b) The Customer is solely responsible for the site preparation before the scheduled installation dates.
- c) The Successful Bidder is responsible for all unpacking, assemblies, wiring, installations, cabling between hardware units and connecting to power supplies. The Successful Bidder will test all hardware operations and accomplish all adjustments necessary for successful and continuous operation of the hardware at all the installation sites.

- d) The supply and installation of ordered items along with necessary operational and user manuals / drawings, circuit diagram, etc., should be delivered along with the ordered items.
- f) After successful Installation, commissioning and handing over of the ordered items to the consignees the Successful Bidder must obtain signed installation certificate in the specified format.
- g) The Successful Bidder shall send status report in the format prescribed in such intervals as may be required by ELCOT from time to time till the execution of the entire order.
- h) The Successful Bidder shall undertake to supply of spares for the maintenance of the offered items for period of three years.
- i) The details of the service centre representatives responsible for attending the installation, warranty services at each consignee site, name and designation of the contact person and centre in-charge, higher level in-charge who is responsible to oversee the service centres, person to whom complaints can be made in case the service provided by any centre is not satisfactory, phone, fax, mobile numbers & email address must be provided well in advance to consignee and to ELCOT.
- j) In the rare event of non-acceptance of delivery items by the user, the vendor should immediately report ELCOT for suitable directions.

### **8.7 Warranty Clause**

All the ordered items are to be given warranty for a period of 36 months, after installation and commissioning against any manufacturing defect and bad workmanship solely by the Successful Tenderer(s) irrespective of whether the same have been Manufactured by them or not. The warranty period will commence from the date of issue of Completion Certificate by end user.

### **8.8 AMC Clause**

The Successful Tenderer(s) agrees to provide comprehensive maintenance if required by ELCOT/Purchaser for the period of two years after expiry of warranty period of all the systems which shall include preventive maintenance and corrective maintenance. The maintenance shall also include replacement of all parts.

### **8.9 Service center**

As the Video conferencing equipments are to be commissioned anywhere in the state of Tamilnadu, the successful bidder should furnish the details as per the tender with address, contact person and his/her telephone number, including mobile phone number and email id for at least two service centres in Tamilnadu.

**9. Payment Clause**

- a) No advance payment will be made.
- b) 95% of the total cost of ordered items will be paid by ELCOT on behalf of the Purchaser, on installation, commissioning and handing over of the ordered items to the Purchaser, after testing the technical specifications. However if the site is not ready within 15 days of delivery, 75% of total cost will be paid on submitting the proof of delivery and certificate from the purchaser that the site is not ready, after receipt of funds from the Purchaser and balance 20% total cost will be paid on installation, commissioning and handing over of the systems.
- c) Bills will be honoured after submission along with all supporting documents in complete shape.
- d) The balance 5% of the payment will be released by ELCOT on behalf of the Purchaser, after satisfactory completion of warranty period. Alternatively, if the Successful Bidder produces an irrevocable Bank Guarantee for the balance 5% valid for 37 months during the warranty period, then the balance 5% payment will be released after observing the formalities stipulated.
- e) The Successful Bidder hereby agrees to get the refund of incentive, excise duty and proportionate sales tax from concerned authorities and pass it on to ELCOT/Purchaser(s) if the Government or any other appropriate agency reduces the Excise duty or Sales tax or give incentive of any type retrospectively after supplying the Ordered items failing which action will be taken to recover the balance amount from the Successful Bidder under the Revenue Recovery Act or any other relevant act.

- f) Penalty amount(s) if any, will be adjusted in the payment due to the Successful Bidder.
- g) All taxes and other levies imposed by Governments in India will be paid at actual as applicable.

**10. Penalty Clause**

- a) A penalty will be levied at the rate of 0.25% per day subject to a maximum of 10% if the delivery is not completed in full within the stipulated period subject to force majeure conditions. The delivery period will effect from the date of receipt of confirmed consignee address. Besides such performance may entail black-listing of Successful Bidder. If the Successful Bidder fails to supply even after the lapse of one month after the stipulated date of delivery, then the orders/contracts are liable for cancellation and the EMD/ Security Deposit will be forfeited in addition to ELCOT reserving the right to blacklist the Successful Bidder for a period of three years from participating in ELCOT's tenders.
- b) In the event of non- fulfillment or non-observance of any of the conditions stipulated in the Contract, the Successful Bidder shall pay as penalty an amount Equivalent to 10% of total value of contract or an amount Equal to the actual loss incurred by ELCOT (or) the Purchaser (s) whichever is higher subject to the condition that the loss amount would not exceed the value of the goods Supplied.
- c) Notwithstanding anything contained in the penalty clause, ELCOT reserves the right to blacklist the Successful Bidder from taking part in any of the procurement operations of ELCOT for a minimum period of three years from the date of blacklisting for failure to carry out supply in time or according to the quality and quantity prescribed

or any such similar reasons. This penalty shall be over and above all other penalties.

**Appendix-1 Model Form of Contract**

(To be executed on a Rs. 20/- Non-Judicial Stamp Paper bought in Tamil Nadu by the Successful Bidder for Supply and Commissioning of Video Conferencing Systems with accessories for Various Government Departments on Contract basis) **(NO FIGURES IN NUMERALS OR WORDS SHALL BE FILLED UP IN THIS SAMPLE FORM AT THE TIME OF SUBMISSION OF TENDER)**

This CONTRACT is entered into at Chennai on the..... day of ..... 2013 between Electronics Corporation of Tamil Nadu Limited, a wholly owned Government of Tamil Nadu Undertaking, a Company registered under the Indian Companies Act, 1956 and having its Registered office at 692, Anna Salai, Nandanam, Chennai- 600 035 hereinafter referred to as "ELCOT" (which term shall mean and include its Successors and permitted assigns).

and

-----a company registered under the Companies Act 1956 and having its Registered office at ----- hereinafter referred to as the "Successful Bidder" (which term shall mean and include its successors and permitted assigns).

Whereas ELCOT on behalf of the Government of Tamil Nadu invited a Rate Contract tender vide Tender Ref. No. **ELCOT/Networks/32597/VCS/2013-14** for Supply and Commissioning of Video Conferencing Systems with accessories for Various Government Departments on Contract basis and the Successful Bidder were selected for the execution of work as per the tender document.

Whereas ELCOT and the Successful Bidder in pursuance thereof have arrived at the following terms and conditions.

1. This document on having been signed by both the parties shall constitute a binding contract between the parties and shall remain in force for a period of Eighteen Months. But in the event of any breach of agreement at any time on the part of the Successful Bidder, the contract shall be determinable by ELCOT without compensation to the Successful Bidder. The contract may also be put to an end at any time by ELCOT upon giving seven days notice to the Successful Bidder.
2. The Successful Bidder agrees that in the event of failure of 10% or more of the vital components of the equipments occurring during the first three year warranty period, ELCOT would have a right to blacklist them for any procurement through ELCOT for a period of three years from that date.
3. The Successful Bidder agrees to supply, install and commission the Video Conferencing system with accessories as per ELCOT Tender ELCOT/Networks/32597/VCS/2013-14 after carrying out successfully all tests prescribed by ELCOT at an unit price of Rs..... (Rupees ..... ) plus applicable Taxes as detailed in Annexure- 'A' to this Agreement to the Purchaser(s) before the specified date. The price offered is firm and is not subject to enhancement on any ground.
4. The ordered items should be delivered within 30 days from the date of Purchase Order(s) to be placed by ELCOT from time to time.

5. The price of the ordered items as per the Tender includes excise duty, Surcharges, Freight, Octroi, insurance, commissioning, and such other levies that may be applicable from time to time.
6. The goods or materials to be supplied under this contract are to be of the quality and of the sort mentioned in the ELCOT Tender document.
7. The Tender Schedule enclosures, the detailed final offer of the Successful Bidder and the purchase orders will form part of this contract. Wherever the offer conditions furnished by the Successful Bidder are at variance with conditions of this contract or conditions stipulated in the purchase order, the latter shall prevail over the offer conditions furnished by the Successful Bidder.
8. The goods or materials are to be delivered on F.O.R destination indicated by ELCOT without any extra cost in such quantities or numbers contained in the purchase order to be issued by ELCOT from time to time. Any amendments to the orders in terms of quantities or delivery period etc., may be incorporated on a mutually agreed basis.
9. ELCOT is entitled to change the list of consignee address from time to time based upon the requirement of the purchaser(s). In this situation, the Successful Bidder should not claim any additional charges except for any major amount involved which will be resolved mutually.

10. The goods sold under this agreement shall not be taken back. However any replacement necessitated, as part of the warranty commitments shall be carried out by the Successful Bidder and faulty parts/materials that arise out of such replacements shall be taken back by the Successful Bidder within a reasonable time.
11. If the supply, installation and commissioning of the Ordered items are not effected as specified in the purchase order, ELCOT shall have the full authority to cancel the order and to take any such action that will be deemed fit in the circumstances.
12. In case of failure by the Successful Bidder to deliver goods or materials demanded from them, within the period specified for delivery or in case of goods or materials delivered by them, not being of the stipulated quality and specifications or in the case of goods or materials being delivered without a correct invoice in duplicate, ELCOT or anyone duly authorized by ELCOT shall have the power to reject any such goods or materials and to purchase from others instead of any goods or materials so rejected or not delivered. Unless the successful Bidder shall themselves forthwith supply that shall be sufficient and satisfactory any excess of cost so incurred by the Purchaser(s) over the contract price together with all charges and expenses attending the purchase shall be recoverable by ELCOT from the Successful Bidder.
13. A penalty will be levied at the rate of 0.25% per day subject to a maximum of 10% if the delivery is not completed in full within the stipulated period subject to force majeure conditions. The delivery period will effect from the

date of receipt of confirmed consignee address. Besides such performance may entail black-listing of Successful Bidder. If the Successful Bidder fails to supply even after the lapse of one month after the stipulated date of delivery, then the orders/contracts are liable for cancellation and the EMD/ Security Deposit will be forfeited in addition to ELCOT reserving the right to blacklist the Successful Bidder for a period of three years from participating in ELCOT's tenders

14. Notwithstanding anything contained in the penalty clause, ELCOT reserves the right to blacklist the Successful Bidder from taking part in any of the procurement operations of ELCOT for a minimum period of three years from the date of blacklisting for failure to carry out supply in time or according to the quality and quantity prescribed or any such similar reasons. This penalty shall be over and above all other penalties.
15. The materials or goods are to be given warranty for a period of 36 months, after installation and commissioning against any manufacturing defect and bad workmanship by the Successful Bidder irrespective of whether the same have been manufactured by them or not. The warranty period of 36 months will commence from the date of installation and commissioning of the ordered items after carrying out successfully the tests prescribed by ELCOT and installation in good working condition. A report of services attended on monthly basis must be submitted to ELCOT for each order during the warranty period.

(1) During the warranty period the Successful Bidder agrees to arrange for a back up item of the Ordered items at their cost, if due to manufacturing and other Technical defects of the Ordered items,

the system is down and if it is not restored in working condition within 48 hours. Otherwise the Successful Bidder shall be liable for a penalty for non-fulfillment of the tender conditions at 1% per week of breakdown period on the costs of only those machineries, which are non-functional. The warranty will cover all the materials and goods supplied by the Successful Bidder under this contract irrespective of the fact whether these have been manufactured by Successful Bidder or not.

(2) The Successful Bidder agrees to provide comprehensive maintenance of the ordered items, which shall include preventive maintenance and corrective maintenance at the location specified by ELCOT / Purchaser(s). The maintenance shall include replacement of all parts. ELCOT reserves the right to terminate the maintenance contract in the event of unsatisfactory maintenance and claim damages for non-fulfillment of contract.

#### 16) **PAYMENT TERMS:**

- a) No advance payment will be made.
- b) 95% of the total cost of ordered items will be paid by ELCOT on behalf of the Purchaser, on installation, commissioning and handing over of the ordered items to the Purchaser, after testing the technical specifications. However if the site is not ready within 15 days of delivery, 75% of total cost will be paid on Submitting the proof of delivery and certificate from the purchaser that the site is not ready, after receipt of funds from

the Purchaser and balance 20% total cost will be paid on installation, commissioning and handing over of the systems.

- c) Bills will be honoured after submission along with all supporting documents in complete shape.
- d) The balance 5% of the payment will be released by ELCOT on behalf of the Purchaser, after satisfactory completion of warranty period. Alternatively, if the Successful Bidder produces an irrevocable Bank Guarantee for the balance 5% valid for 37 months during the warranty period, then the balance 5% payment will be released after observing the formalities stipulated.
- e) The Successful Bidder hereby agrees to get the refund of incentive, excise duty and proportionate sales tax from concerned authorities and pass it on to ELCOT/Purchaser(s) if the Government or any other appropriate agency reduces the Excise duty or Sales tax or give incentive of any type retrospectively after supplying the ordered items failing which action will be taken to recover the balance amount from the Successful Bidder under the Revenue Recovery Act or any other relevant act.
- f) Penalty amount(s) if any, will be adjusted in the payment due to the Successful Bidder.

- g) All taxes and other levies imposed by Governments in India will be paid at actual as applicable.
- 17) The Successful Bidder agrees that in the event of non-fulfillment or non-observance of any of the conditions stipulated in the contract, the Successful Bidder shall pay as penalty an amount equivalent to 10% of total value of contract or an amount equal to the actual loss incurred by ELCOT (or) the Purchaser(s) whichever is higher subject to the condition that the loss amount would not exceed the value of the goods supplied.
- 18) The contract or any part share of interest in it is not be transferred or assigned by the Successful Bidder directly or indirectly to any person or persons whomsoever without the prior written consent of ELCOT.
- 19) Neither the Purchaser(s) / ELCOT nor the Successful Bidder shall be liable to the other for any delay or failure in the performance of their respective obligations due to causes or contingencies beyond their reasonable control such as
- i) Natural phenomena including but not limited to earthquakes, floods and epidemics.
  - ii) Acts of any Government authority domestic or foreign including but not limited to war declared or undeclared, priorities and quarantine restrictions.

- iii) Accidents or disruptions including, but not limited to fire, explosions, break down of essential machinery or equipment, power and water shortages.

## 20. Termination of Contract

### 20.1 Termination for default

- a) ELCOT may without prejudice to any other remedy for breach of contract, by written notice of default with a notice period of seven days, sent to the successful bidder, terminate the contract in whole or part, (i) if the successful bidder fails to deliver any or all of the goods within the time period(s) specified in the Contract, or fails to supply the items as per the Delivery Schedule or within any extension thereof granted by ELCOT; or (ii) if the successful bidder fails to perform any of the obligation(s) under the contract; or (iii) if the successful bidder, in the judgement of ELCOT, has engaged in fraudulent and corrupt practices in competing for or in executing the Contract.
- b) In the event of ELCOT terminating the Contract in whole or in part, ELCOT may procure, upon terms and in such manner as it deems appropriate, the goods and services similar to those and delivered and the successful bidder shall be liable to ELCOT for any additional costs for such similar goods. However, the successful bidder shall continue the performance of the contract to the extent not terminated.

## 20.2 Termination for Insolvency

ELCOT may at any time terminate the Contract by giving written notice with a notice period of 7 days to the successful bidder, if the successful bidder becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the successful bidder, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to ELCOT.

## 20.3 Termination for Convenience

ELCOT may by written notice, with a notice period of seven days sent to the successful bidder, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for ELCOT's convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective. On termination, the successful bidder is not entitled to any compensation whatsoever.

- 21) Any notice to the successful bidder shall be deemed to be sufficiently served, if given or left in writing at their usual or last known place of abode or business.
- 22) ELCOT reserves the right to cancel the order(s) and to terminate the contract in the event of short performance or non performance of the successful bidder.
- 23) Except as otherwise provided elsewhere in the contract, if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, at any time in connection with construction, meaning, operation, effect, interpretation or out of the contract or breach thereof, the same shall be decided by Sole Arbitrator to be appointed by the Managing Director of ELCOT.

If the Arbitrator so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, another Arbitrator shall be appointed by the Managing Director of ELCOT. The Arbitrator so appointed shall proceed with the reference from the stage, where his predecessor had left if both parties consent for the same, otherwise, he shall proceed de novo.

It is a term of the contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter.

It is also a term of the contract that neither party to the contract shall be entitled to seek interest and the arbitrator should not grant interest.

The Arbitral Tribunal shall give reasoned award and the same shall be final, conclusive and binding on the parties.

The venue of the arbitration shall be Chennai and language English.

The fees of the Arbitrator and expenses incidental to the arbitration proceedings shall be borne equally by the parties.

Subject to as aforesaid, the provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment in lieu thereof shall apply to the arbitration proceedings under this Clause.

Subject to the above, the Courts in Chennai alone shall have jurisdiction in this matter.

- 24) Subject to the above, the Courts at Chennai alone shall have jurisdiction in the matter.

In Witness whereof the parties hereto have signed on the day, month and year above written in the presence of

	<b>For and on behalf of Successful Bidder</b>	<b>For and on behalf of Electronics Corporation of Tamilnadu Limited</b>
<b>1) Witness</b>		
<b>2) Witness</b>		

**Appendix-2 Bank Guarantee Format**

(To be executed in Rs.100/- Stamp Paper)

To

The Managing Director  
Electronics Corporation of Tamil Nadu Limited  
MHU Complex II Floor  
692 Anna Salai, Nandanam  
Chennai - 600035

Bank Guarantee No:

Amount of Guarantee:

Guarantee covers from:

Last date for lodgement of claim:

This Deed of Guarantee executed by ..... (Bankers Name & Address) having our Head Office at .....(address) (hereinafter referred to as "the Bank") in favour of The Managing Director, Electronics Corporation of Tamil Nadu Limited, a wholly owned Government of Tamilnadu undertaking, MHU Complex II Floor, 692 Anna Salai, Nandanam, Chennai - 600035 (hereinafter referred to as "the Beneficiary") for an amount not exceeding Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ Only) as per the request of M/s. \_\_\_\_\_ having its office address at \_\_\_\_\_ (hereinafter referred to as "Service Provider") against Letter of Acceptance reference \_\_\_\_\_ dated \_\_\_\_/\_\_\_\_/\_\_\_\_ of M/s. Electronics Corporation of Tamil Nadu Limited. This guarantee is issued subject to the condition that the liability of the Bank under this guarantee is limited to a maximum Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ Only) and the guarantee shall remain in full force upto \_\_\_\_ months from the date of Bank Guarantee and cannot be invoked otherwise by a written demand or claim by the beneficiary under the Guarantee served on the Bank before \_\_\_\_ months from the date of Bank Guarantee.

AND WHEREAS it has been stipulated by you in the said ORDER that the successful bidder shall furnish you with a Bank Guarantee by a Scheduled/Nationalised Bank for the sum specified therein as security for compliance with the successful bidder performance obligations for a period in accordance with the contract.

AND WHEREAS we have agreed to give the successful bidder a Guarantee.

THEREFORE, we (Bankers address)....., hereby affirm that we are Guarantors and responsible to you on behalf of the successful bidder up to a total of Rs.\_\_\_\_\_/- (Rupees \_\_\_\_\_ Only) and we undertake to pay you, upon your first written demand declaring the successful bidder to be in default under the contract and without any demur, cavil or argument, any sum or sums within the limit of Rs.\_\_\_\_\_/- (Rupees \_\_\_\_\_ Only) as aforesaid, without your needing to prove or show grounds or reasons for your demand or the sum specified therein. We will pay the guaranteed amount notwithstanding any objection or dispute whatsoever raised by the Service Provider.

This Guarantee is valid until \_\_\_ months from the date of Bank Guarantee.

Notwithstanding, anything contained herein. Our liability under this guarantee shall not exceed Rs.\_\_\_\_\_/- (Rupees \_\_\_\_\_ Only). This Bank Guarantee shall be valid up to \_\_\_ months from the date of Bank Guarantee and we are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before \_\_\_\_\_.

In witness whereof the Bank, through its authorised Officer, has set its, hand and stamp on this ..... at \_\_\_\_\_.

Witness:

(Signature)  
(Name in Block Letters)

1.

2.

**Appendix-3 Format for Clarifications / Amendments**

**FORMAT FOR QUERIES ON TENDER CONDITIONS AND  
TECHNICAL SPECIFICATIONS**

#### **FOR COMMERCIAL CONDITIONS:**

#### **FOR TECHNICAL SPECIFICATIONS:**

Sl. No.	Page No.	Product Code	Item Name	Existing Specification as per Tender Document	Technical Parameter as per Tender Document	Amendment requested	Reasons for requesting the amendment

Sl. No.	Page No.	Product Code	Item Name	Existing Specification as per Tender Document	Technical Parameter as per Tender Document	Amendment requested	Reasons for requesting the amendment

### **Appendix-4 Sample Submission Form**

Date of submission: \_\_\_/\_\_\_/\_\_\_

Vendor Name :

Vendor Address :

Tender No. :

Sample Submitted On :

Tender Product SI No. :

<b>Sl. No.</b>	<b>Item No.in the Tender</b>	<b>Item Description</b>	<b>Make</b>	<b>Model</b>	<b>SI.No of the Item</b>

**VENDOR**

*Bidding Company Name:*

*Signature of the Representative:*

*Name:*

*Designation:*

*Contact No.*

**ELCOT**

*Name & Designation of the Person  
Receives the Sample:*

*Store I/C Name & Designation:*

*Signature:*

**Appendix-5 Manufacturer's Letter of Guarantee**

To

The Managing Director,  
Electronics Corporation of Tamil Nadu Ltd.,  
MHU Complex, II Floor,  
692, Anna Salai,  
Nandanam, Chennai – 600 035.

Sir,

We hereby undertake to submit a Bid, and subsequently negotiate and sign the contract with the purchaser against Tender No: **ELCOT/Networks/32597/VCS/2013-14** for the (type the Description of goods) Manufactured by us. We hereby extend our full guarantee and warranty for the goods offered for supply by the above firm against this tender.

We also undertake to provide timely supplies as per terms of tender and as agreed mutually and also to provide a trouble free and continuous support either directly or through our authorised partners under our supervision during the Warranty and Extended warranty period. We will provide the necessary spares support in the event of replacement of any spare parts is necessitated while providing Warranty and Extended Warranty services and if the spares are not available then we will arrange for complete replacement of the item(s) with an equivalent / higher model.

For this tender we authorise M/s. \_\_\_\_\_ (Complete address and full contact details of the partner) to be our sales and service partner. In the event of discontinuation of supply and service by our partner or any problem arises during provision of supply and services, the entire responsibility to provide

trouble free and continuous supply and services to the enduser rests with us and we undertake to provide supply and services directly or through our alternative sales / service partners.

(Signature for and on behalf of Principal)

**Note:** Competent authority of the manufacturer / Principal should issue the letter of authority individually for all the items quoted and flag the letters with the name of the manufacturer / Principal.

**Part-1 Technical Bid**

**P1.1 Check-list for Enclosures**

**Bidder should fill in the check list without fail.**

(Tick  wherever applicable)

<b>Document to be submitted</b>			
Filled Tender Bid Forms for Technical Bid and Price Bid		YES <input type="checkbox"/>	NO <input type="checkbox"/>
Payment of EMD amount		YES <input type="checkbox"/>	NO <input type="checkbox"/>
Submission of Tender in Two Part Bid		YES <input type="checkbox"/>	NO <input type="checkbox"/>
Submission of Letter of Authorisation		YES <input type="checkbox"/>	NO <input type="checkbox"/>
Submission of Manufacturer's Authorisation		YES <input type="checkbox"/>	NO <input type="checkbox"/>
<b>Eligibility Criteria</b>			
1. Copy of the Certificate of Registration or Partnership Agreement or certificate issued by any statutory authority should be submitted		YES <input type="checkbox"/>	NO <input type="checkbox"/>
Copy of Work orders or Agreements obtained on or before 31/03/2010		YES <input type="checkbox"/>	NO <input type="checkbox"/>
2. Copy of Audited Balance Sheet for the last 3 years (2012-13, 2012-11 & 2011-10,2010-09) as a proof for average annual turnover of Rs.1.5 Crores		YES <input type="checkbox"/>	NO <input type="checkbox"/>
3. Copy of Single Order or signed Contract Agreement and completion certificate for Supply and Commissioning of Video Conferencing equipments with accessories /Multipoint Control Unit of value of Rs. 10 Lakhs or more executed during any one of the previous three financial years. (2010-11, 2011-12 & 2012-13)		YES <input type="checkbox"/>	NO <input type="checkbox"/>
4. Copy of the Manufacturing licence for OEMs or Manufacturer's authorisation letter for Authorised distributors or dealers.		YES <input type="checkbox"/>	NO <input type="checkbox"/>
5. Copies of Rent receipt or Telephone bill on or before 31/03/2010 as a Proof for the existence for having offices in Chennai		YES <input type="checkbox"/>	NO <input type="checkbox"/>
6. Copies of the Land-line telephone bills or rent agreement or agreement signed with the franchise dated before 31/03/2012 should be submitted as a proof for availability of the service centre.		YES	NO

**Note: Please ensure all the relevant boxes are marked Yes/No against each column.**

### P 1.2 Profile of the Company

1.	Name of the Company	
2.	Year of incorporation (Enclose Incorporation Certificate)	
3.	Nature of the Company (Registered Company or Partnership or Proprietary)	
4.	<b>Registered office</b>	
	Telegraphic Address	
	Office Telephone Number	
	Fax Number	
	Name of Contact Person	
	Contact Telephone Number	
	Email Address	
5.	<b>Local presence at Chennai</b>	
	Telegraphic Address	
	Office Telephone Number	
	Fax Number	
	Name of Contact Person	
	Contact Telephone Number	
	Email Address	
6.	List of Branch Offices	
7.	<b>Registration Details</b>	
	Permanent Account Number	
	CST Registration Numbers	
	VAT Registration Numbers	
	Service Tax Registration Number	
8.	Banker's Name	
	Banker's Address	
	Account Number	

### P 1.3 EMD Particulars

Number of Demand Drafts enclosed:

SI.No	DD No.	Date	Name of the Bank	Amount (Rs.)
1.				
2.				

	<b>Total Amount</b>	
--	---------------------	--

#### **P 1.4 Details in support of Eligibility Criteria**

**a) Bidder's existence in IT business for three years**

<b>Sl.No.</b>	<b>Description</b>	<b>Details to be furnished with Proof</b>
1.	Copy of the Certificate of Registration or Partnership Agreement or certificate issued by any statutory authority should be submitted.	
2.	Copy of Work Order or signed Contract Agreement on or before 31/03/2010 for any IT Services as a proof for existence in IT business for 3 years	

**b) Bidder's Annual Turnover in last three Audited Years**

<b>Sl.No.</b>	<b>Financial Years</b>	<b>Turn over (Rs.)</b>	<b>Audited Balance Sheets</b>
1.	2009-10		
2.	2010-11		
3.	2011-12		
4.	2012-13		

**c) Bidder's experience in similar field**

<b>Sl.No.</b>	<b>Description</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>
1.	Name of the organisation where the Bidder implemented the system			
2.	Place			
3.	Equipment supplied			

4.	Value of the order			
5.	Completion certificate			

**d) Authorisation letter from the Bidder**

Sl.No.	Description	Details to be furnished with Proof
1.	Authorisation Letter	For OEMs, Copy of the Manufacturing License shall be submitted. For authorised distributors or dealers, manufacturer's authorisation letter in the prescribed format shall be submitted.

**e) Bidder's Local Office Presence in Chennai (Submit additional sheet if Necessary)**

Sl.No.	Description	Details to be furnished with Proof
1.	Local Office Address	Copy of the rent receipt or telephone bills dated on or before 31/03/2010

**f) Service Centre Region**

Sl.No.	Description	Details to be furnished with Proof
1.	Service Centre Region	Bidders should produce Land-line telephone bills or rent agreement or agreement signed with the franchise dated before 31/03/2012 should be submitted as a proof for availability of the service centre.

**P1.5 Declaration**

I/We agree that the offer shall remain open for acceptance for a minimum period of (180) One Eighty days stipulated in the Tender from the date of opening of the tender and thereafter until it is withdrawn by us by notice in writing duly addressed to the authority of opening the tender and sent by registered post with acknowledgement due or otherwise delivered at the office of the authority. The EMD amount shall not bear any interest and shall be liable to be forfeited to ELCOT should I/We fail to abide by the stipulations to keep the offer open for a period mentioned above or fail to sign and complete the contract document as required by ELCOT and furnish the Security Deposit as specified in the terms and conditions of the contract. The EMD amount may be adjusted towards SD or refunded to me/us unless the same or any part thereof has been forfeited as aforesaid.

I/We agree to adhere with the schedule of implementation and deliver the items as specified in the tender.

I/We declare that the Price bid has been submitted without any conditions and strictly as per the Terms and Conditions of the tender document and I/We am/are aware that the Price bid is liable to be rejected if it contains any other conditions.

I/We declare that the information furnished in the tender is true to the best of my/our knowledge. If any false/fictitious information is found I/We agree to the rejection of the bids and consequence action.

<b>Annexure-A</b>
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<b>Technical Specifications</b>
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**(1) Technical Specifications for Set top 1080pHD Video conferencing endpoint**

**Make :**

**Model :**

Sl. No	Descriptions	Compliance Yes/No
1	The system should be a point to point system with Codec, HD 1080p camera,Mic, remote control, System should support controlling of codec and camera through remote control. The system should come with required cables and power supply. The system should be capable of giving HD 1080p @60fps. The unit should be upgradable to 1+3 Multisite in Continuous Presence Mode.	
2	<b>Video Standards:</b> H.263, H.264 H.264 in an Encrypted call should be possible H.264 should be possible when sending or receiving two live video sources e.g. Presenter and Presentation.	
3	<b>Video Frame Rate:</b> Should support 60 fps with 1080p resolution from day one The unit should support HD 1080p@60fps day One	
4	<b>Video Features:</b> Ability to send and receive two live simultaneous video sources @ 1080P in a single call, so that the image from the main camera and PC or document camera can be seen simultaneously. Should support H.239 and BFCP protocols with 1080p resolution	
5	<b>Video Output:</b> Should have at least 2 nos. of High Definition Multimedia	

	Interface ( HDMI or DVI or combination) output to connect Full High Definition display devices such as plasma and projectors for both Video and Content.(Dual Monitor Support) It should be possible to display the main video on one HD screen and the presentation/dual video on the other HD screen.	
6	<b>Video Input:</b> Should have at least one HD video Input to connect HD camera with full functionalities as mentioned in the camera specifications Should have DVI ( Digital Video Interface) input to connect PC/ Laptop directly to the Video conferencing system and display resolutions from WXGA (1280 x 768) to 1080p (1920 x 1080) along with PC Audio	
7	<b>Audio standards supported:</b> G.711, G.722,G.722.1, AAC-LD or equivalent standard must be supported	
8	<b>Other Desirable features:</b> Noise Reduction, Automatic Gain control, Acoustic Echo Canceller, Active Lip synchronization	
9	<b>Audio Inputs:</b> Should support 2 Microphone inputs from day one whereas, one mic should be supplied with each endpoint day one The microphones must be standard based microphones. The pickup of the microphones should be at least 10 feet from the microphone. Echo Cancellation for every input must be available.	
10	<b>External devices:</b> The unit should be supplied with Wireless Remote Control	
11	<b>Network Interfaces:</b> 1 x LAN /Ethernet--10/100 Mbps full duplex Should have support for IPV4 and IPV6	
12	<b>Bandwidth:</b> IP--at least 6 Mbps	
13	<b>Network Capabilities:</b> Packet Loss Based Down speeding	
14	<b>H.323/ IP Features:</b> Differentiated Services (QOS) IP adaptive bandwidth management (including flow control)	

	Gatekeeper discovery (Manual / Auto) Network Address Translation (NAT) support (Manual / Auto) Standards based- Packet Loss Recovery feature on H.323 call Should support URL Dialling Support for H.245 DTMF tones in H.323	
15	<b>Gatekeeper Feature:</b> The endpoints must support SIP in addition to H323 protocol. Calls can be made on SIP or H323 without having to restart or reconfigure the endpoint. The endpoint must register with any standard Gate Keeper.. Must support data sharing capability in SIP calls for dual stream transmit and receive.	
16	<b>Security : Menu Control:</b> Password protected system menu	
17	<b>Encryption of video call:</b> ITU-T standards based Encryption of the video call Call should be encrypted end-to-end on IP Should support Standards-based: H.235 v3 and AES Encryption via Automatic key generation and exchange. The same should be available in a call with Video with presentation (dual video) Ability to manually turn encryption On or OFF should be there. Automatic key generation and exchange	
18	<b>Camera:</b> Minimum of 10X optical zoom 1920 x 1080 pixels progressive @ 60fps The Camera and codec should be from the same manufacturer. Should have at least 70 degrees or higher field of view (horizontal)	
19	<b>Directory services:</b> Should support Local and Global directories Should support LDAP and H.350 protocols for directory transfer.	

**(2) Technical Specifications for 4 site MCU License/ Support for 1080p HD Video conferencing Endpoint**

Sl. No	Descriptions	Compliance Yes/No
1	4 site Multipoint License to support 1+3 sites over IP /ISDN BRI network and should support 1+3 or more HD Multisite Conference in Continuous Presence Mode.	
2	Extend the reach of your video conferencing solution to more locations	
3	Mixed protocol dialing, including IP, ISDN	
4	Three modes -- Continuous Presence, Voice Activated Switching, and Presenter	

**(3) Technical Specifications for 10 site MCU (Multipoint Control Unit)**

**Make :**

**Model:**

Sl. No	Descriptions	Compliance Yes/No
1	Capacity: Should have the ability to connect at least 10 video sites from day one in a MCU without cascading.	
2	<b>Video quality performance:</b> All 10 video ports must support 30 fps of 720p resolution or 5 ports 1080p resolution symmetric and expandable to 20 ports SD in from day one. Should support H.264 even in Continuous presence	
3	<b>Bandwidth per port:</b> 4Mbps	
4	<b>Video Standards:</b> Should support H.263, H.264 video algorithms	
5	<b>Video Resolution:</b> Should support video resolution from QCIF to 1080p without losing ports	
6	<b>Audio Standards:</b> Along with the Support for basic algorithms like G.711 and G.722.1 the MCU should also support wideband	

	Audio protocols like MPEG 4 AAC - LC and/or MPEG 4 AAC - LD or equivalent	
7	<b>IP protocols:</b> The MCU should support H.323 and SIP protocols Must have support for IPV6.	
8	<b>Transcoding &amp; Rate Matching:</b> The MCU should support transcoding of different Audio/video Protocols. MCU should be able to combine HD and SD in the same conference The MCU should have an video encode resource per participant MCU should support dynamic resource allocation.	
9	<b>Dual Video:</b> The MCU should support H.239 for sending and receiving dual video streams (Presenter + Presentation)	
10	<b>Conference Features:</b> The MCU should have external scheduling and reservation The layout from MCU must utilize the screen space efficiently and every video pane in a multi party layout should have thin borders. The MCU shall interoperate with multiple vendor endpoints. The MCU should support latest audio and video standards. MCU should have the ability to transcode/rate match/scale up the resolution of SD endpoints in conference.	
11	<b>Network Resilience:</b> Should support intelligent down speeding, up speeding and packet loss concealment Should be able to register with external H.323 Gatekeeper	
12	<b>Security:</b> The MCU must be a secure Non-PC Hardware with a strong operating system. The MCU should support 128 Bit strong AES encryption for calls and H.235 for authentication. The MCU must support encryption for	

	calls on SIP.	
13	<b>Network Interface:</b> Must support 2x 10/100 Mbps Ethernet port for diverse ip communication viz. LAN and Internet, they should be provided by externally if needed.	

#### 4) Technical Specifications Webcam for PC/Laptop Video Conferencing

**Make :**

**Model :**

Sl. No	Descriptions	Compliance Yes/No
1	Full HD 1080p video capture (up to 1920 X 1080 pixels) with recommended system	
2	It works with Windows and Mac	
3	Built-in mics with Right Sound™ technology	
4	HD video calling (1280 x 720 pixels) with recommended system	
5	Photos: Up to 10 mega pixels	
6	Universal clip fits laptops, LCD or CRT monitors	
7	Fluid Crystal Technology	
8	1-click Facebook and YouTube HD upload	
9	Face-recognition auto-login	
10	System requirement: 2.4 GHz Intel Core 2 Duo, 2 GB RAM, 200 MB hard drive space. USB 2.0 port, 1 Mbps upload speed or higher	

**(5) Technical Specifications for USB Speaker Phone for PC/Laptop Video Conferencing**

**Make :**

**Model :**

Sl. No	Descriptions	Compliance Yes/No
1	APPLICATIONS: Internet Telephony: Skype, Vonage Enterprise Telephones: Avaya, Cisco, NEC, Nortel VoIP Softphones: Avaya, Cisco, Nortel Cell Phones: Motorola, Nokia Web Conferencing: IBM/Lotus Sametime, Microsoft Live Meeting, WebEx Instant Messenger: AOL, Microsoft MSN, Yahoo Desktop Video Conferencing: Polycom, Sony, Tandberg Audio Playback: iPods, QuickTime, RealPlayer, Windows Media Player PC-Based Gaming: TeamSpeak	
2	Speaker: Bandwidth: 150Hz-15kHz Max output level: 80dBSPL @ 1 foot	
3	Microphone: Bandwidth: 50Hz-8kHz	
4	Power: USB-powered, 5 VDC @ 500mA maximum External power supply: 120-140 VAC input, 7 VDC @ 500mA output	

**(6) Technical Specifications for 32" inch Size LED Display****Make :****Model :**

<b>Sl. No</b>	<b>Description</b>	<b>Details</b>	<b>Compliance Yes/No</b>
1	Contrast	5,000:1	
2	View Angle	178 / 178 degree	
3	Response Time	8 ms	
4	Resolution	1920X1080 (full high definition TV)	
5	Sound Output	10W*2	
6	Brightness	350 nits	
7	S video	1	
8	Composite (AV)	2	
9	Head Phone	1	
10	RF Antenna Interface	2	
11	USB	1	
12	Component Video	1	
13	PIP	1	
14	Standby Power	< 1W	
15	HDMI input socket – rear side	2	
16	Graphics Card	2D & 3D Engine Graphics	
17	HDMI input socket – Front side	1	
18	PC input (VGA)	1	
19	Number of Programs	199 or More	
20	Colour System	PAL/NTSC/SECAM	

<b>Sl. No</b>	<b>Description</b>	<b>Details</b>	<b>Compliance Yes/No</b>
21	Reception Channels	VHF Channels E2 to E4, E5 to E12, X, Y, Z, Z+1, Z+2 UHF Channels S1 to S41	
22	Auto Tuning on Remote	Should be available	
23	Manual Search and Adjust (fine Tune for picture clarity)	Should be available	
24	Audio Mute	Should be available in remote	
25	Recall	Previous programme should be available	
26	Front or Rear A-V IN & Out All RCA Socket	Should be available	
27	Power supply	110-240V AC, 50 Hz	
28	Multimedia	Video Decoder - MPEG-1/2, H.264/AVC (Dual) - VC-1, JPEG, PNG Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc	
29	Power Consumption	200 Watts	
	<b><u>Accessories</u></b>		
30	Remote Control Unit with batteries	1 no.	
31	Wall Mounting Kit	1 no.	
32	Speaker	Built-in	
33	Cables	HDMI Cable – 2 nos. AV Cable – 2 nos. SVideo Cable – 1 no. USB Cable – 1 no.	

**(7) Technical Specifications for 40" inch Size LED Display****Make :****Model :**

<b>Sl. No</b>	<b>Description</b>	<b>Details</b>	<b>Compliance Yes/No</b>
1	Contrast	1:50000	
2	View Angle	178 / 178 degree	
3	Response Time	8 ms	
4	Resolution	1920*1080 (full high definition TV)	
5	Brightness	350 nits	
6	Sound Output	10W*2	
7	S video	1	
8	Composite (AV)	2	
9	Head Phone	1	
10	RF Antenna Interface	2	
11	USB	1	
12	Component Video	1	
13	Graphics Card	2D & 3D Engine Graphics	
14	PIP	1	
15	Standby Power	< 1W	
16	HDMI input socket – rear side	2	
17	HDMI input socket – Front side	1	
18	PC input (VGA)	1	
19	Number of Programs	199 or More	
20	Color System	PAL/NTSC/SECAM	
21	Multimedia	Video Decoder - MPEG-1/2,	

<b>Sl. No</b>	<b>Description</b>	<b>Details</b>	<b>Compliance Yes/No</b>
		H.264/AVC (Dual) - VC-1, JPEG, PNG Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc	
22	Reception Channels	VHF Channels E2 to E4, E5 to E12, X, Y, Z, Z+1, Z+2 UHF Channels S1 to S41	
23	Auto Tuning on Remote	Should be available	
24	Manual Search and Adjust (fine Tune for picture clarity)	Should be available	
25	Audio Mute	Should be available in remote	
26	Recall	Previous programme should be available	
27	Front or Rear A-V IN & Out All RCA Socket	Should be available	
28	Power supply	110-240V AC, 50 Hz	
29	Power Consumption	200 Watts	
<b><u>Accessories</u></b>			
30	Remote Control Unit with batteries	1 no.	
31	Wall Mounting Kit	1 no.	
32	Speaker	Built-in	
33	Cables	HDMI Cable – 2 nos. AV Cable – 2 nos. SVideo Cable – 1 no. USB Cable – 1 no.	

**(8) Technical Specifications for 46" inch Size LED Display****Make:****Model :**

<b>Sl. No</b>	<b>Description</b>	<b>Details</b>	<b>Compliance Yes/No</b>
1	Contrast	1:50000	
2	View Angle	178 / 178 degree	
3	Response Time	8 ms	
4	Resolution	1920*1080 (full high definition TV)	
5	Brightness	350 nits	
6	Sound Output	10W*2	
7	S video	1	
8	Composite (AV)	2	
9	Head Phone	1	
10	RF Antenna Interface	2	
11	USB	1	
12	Component Video	1	
13	PIP	1	
14	Standby Power	< 1W	
15	HDMI input socket – rear side	2	
16	HDMI input socket – Front side	1	
17	Graphics Card	2D & 3D Engine Graphics	
18	PC input (VGA)	1	
19	Number of Programs	199 or More	
20	Colour System	PAL/NTSC/SECAM	

<b>Sl. No</b>	<b>Description</b>	<b>Details</b>	<b>Compliance Yes/No</b>
21	Reception Channels	VHF Channels E2 to E4, E5 to E12, X, Y, Z, Z+1, Z+2 UHF Channels S1 to S41	
22	Auto Tuning on Remote	Should be available	
23	Manual Search and Adjust (fine Tune for picture clarity)	Should be available	
24	Audio Mute	Should be available in remote	
25	Multimedia	Video Decoder - MPEG-1/2, H.264/AVC (Dual) - VC-1, JPEG, PNG Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc	
26	Recall	Previous programme should be available	
27	Front or Rear A-V IN & Out All RCA Socket	Should be available	
28	Power supply	110-240V AC, 50 Hz	
29	Power Consumption	300 Watts	
	<b><u>Accessories</u></b>		
30	Remote Control Unit with batteries	1 no.	
31	Wall Mounting Kit	1 no.	
32	Speaker	Built-in	
33	Cables	HDMI Cable – 2 nos. AV Cable – 2 nos. SVideo Cable – 1 no. USB Cable – 1 no.	

**(9) Technical Specifications for 55" inch Size LCD Display****Make:****Model :**

<b>Sl. No</b>	<b>Item Description</b>	<b>Specifications</b>	<b>Compliance (Yes/No)</b>
1	Contrast	4000:1	
2	View Angle	178 / 178 degree	
3	Response Time	8 ms	
4	Resolution	1920*1080 (full high definition TV)	
5	Brightness	700 nits	
6	Sound Output	10W*2	
7	S video	1	
8	Composite (AV)	2	
9	Head Phone	1	
10	RF Antenna Interface	2	
11	USB	1	
12	Component Video	1	
13	PIP	1	
14	Standby Power	<2W	
15	HDMI input socket – rear side	2	
16	HDMI input socket – Front side	1	
17	PC input (VGA)	1	
18	Number of Programs	199 or More	
19	Color System	PAL/NTSC/SECAM	
20	Reception Channels	VHF Channels E2 to E4, E5 to E12, X, Y, Z, Z+1, Z+2 UHF Channels S1 to S41	
21	Graphics Card	2D & 3D Engine Graphics	
22	Auto Tuning on Remote	Should be available	
23	Manual Search and Adjust (fine Tune for picture clarity)	Should be available	
24	Audio Mute	Should be available in remote	

25	Recall Previous programme	should be available	
26	Front or Rear A-V IN & Out All RCA Socket	Should be available	
27	Multimedia	Video Decoder - MPEG-1/2, H.264/AVC (Dual) - VC-1, JPEG, PNG Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc	
28	Power supply	110-240V AC, 50 Hz	
29	Power Consumption	300 Watts	
	<b>Accessories</b>		
30	Remote Control Unit with batteries	1 no	
31	Wall mounting kit	1 no	
32	Speaker	Built-in	
33	Cables	Cables HDMI Cable – 2 nos. AV Cable – 2 nos. SVideo Cable – 1 no.	

**(10) Technical Specifications for 110" inch Size LED Video Wall display****Make:****Model :**

Sl. No	Item Description	Specifications	Compliance (Yes/No)
1	<b>LED Screen Size</b>	<b>55"</b>	
2	Contrast	5000:1	
3	View Angle	178 / 178 degree	
4	Response Time	8 ms	
5	Resolution	1920*1080 (full high definition TV)	
6	Brightness	350 nits	
7	Sound Output	10W*2	
8	S video	1	
9	Composite (AV)	2	
10	Graphics Card	2D & 3D Engine Graphics	

11	Head Phone	1	
12	RF Antenna Interface	2	
13	USB	1	
14	Component Video	1	
15	PIP	1	
16	Standby Power	<2W	
17	HDMI input socket – rear side	2	
18	HDMI input socket – Front side	1	
19	PC input (VGA)	1	
20	Number of Programs	199 or More	
21	Color System	PAL/NTSC/SECAM	
22	Reception Channels	VHF Channels E2 to E4, E5 to E12, X, Y, Z, Z+1, Z+2 UHF Channels S1 to S41	
23	Auto Tuning on Remote	Should be available	
24	Manual Search and Adjust (fine Tune for picture clarity)	Should be available	
25	Audio Mute	Should be available in remote	
26	Recall Previous programme	should be available	
27	Multimedia	Video Decoder - MPEG-1/2, H.264/AVC (Dual) - VC-1, JPEG, PNG Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc	
28	Front or Rear A-V IN & Out All RCA Socket	Should be available	
29	Power supply	110-240V AC, 50 Hz	
30	Power Consumption	300 Watts	
	<b>Accessories</b>		
31	Remote Control Unit with batteries	1 no	
32	Wall mounting kit	1 no	
33	Speaker	Built-in	
34	Cables	Cables HDMI Cable – 2 nos.	
		AV Cable – 2 nos.	

		SVideo Cable – 1 no.	
	<b>Floor Mount with Wall Bracket</b>		
35	Device Supported	Flat Panel Display	
36	Adjustment	Horizontal adjustment makes mounting and aligning displays quick and easy	
37	Colour	Powder coat and Black in colour	
38	Alignment	Adapter rail alignment measuring plate to assist in the mounting of the displays	

### (11) Technical Specifications for 1KVA UPS

**Make:**

**Model :**

Sl. No	Descriptions	Compliance Yes/No
1	1 KVA UPS with 30 minutes power backup.	
2	<b>OUTPUT:</b> Output Power Capacity 670 Watts / 1000 VA Max Configurable Power 670 Watts / 1000 VA Nominal Output Voltage 230V, Output Voltage Note Configurable for 220 : 230 or 240 nominal output voltage, Output Voltage Distortion Less than 5% at full load, Output Frequency (sync to mains) 47 - 53 Hz for 50 Hz nominal, 57 - 63 Hz for 60 Hz nominal, Topology Line Interactive Waveform Type Sine wave	
2	<b>INPUT:</b> Nominal Input Voltage 230V Input Frequency 50/60 Hz +/- 3 Hz (auto sensing) Input voltage range for main operations 160 - 286V Input voltage adjustable range for mains operation 151 - 302V	
3	Battery Type Maintenance-free sealed Lead-Acid battery with suspended electrolyte : leak proof Typical recharge time: 3 hour(s) Replacement Battery: RBC23	

**(12) Technical Specifications for HDMI Video Splitter, Switcher, Cables and Accessories**

**Make :**

**Model:**

Sl. No	Descriptions	Compliance Yes/No
	<b>HDMI Video Splitter</b>	
1	“HDMI Splitter” is a unit whereby you can send your HDMI output of set-top boxes, DVD Players, D-VHS Players, PC’s and other HDTV devices to as many as 2/4/8 HDMI inputs of monitor /LCD/Plasma/Projectors with the same strength & quality and an ability to daisy chain or cascade for multiple larger number of displays	
2	The resolutions that the splitter supports are 720i, 720P, 1080i and 1080P. They work on simple plug and play functionality. They connect to both HDMI and DVI-D single link Displays.	
3	Connectors: 1 input/4 output, HDMI Type A female	
4	Total data rate: 6.75Gbps (225MHz) Signal repeater: Supports up to 33' cable length from each output	
5	Dimensions: 8.6"(W) x 4.7"(L) x 1.8"(H) Switch weight: 2.2 lbs Power: 100-240VAC, 50/60Hz	
6	Maximum cable length shown is for non-amplified HDMI cables. Amplified HDMI cables will enable longer cable runs.	
7	Transmits 3D video signals ·Compatible with HDCP compliant devices	
	<b>HDMI Video Switcher</b>	
1	Input Connectors : 4 x HDMI Output Connectors : 1 x HDMI	
2	“HDMI Switcher” connect multiple HDMI inputs to receive more digital content with better picture quality on your TV or LCD’s. The unique auto-adaptive equalizers enable the use of longer cables for TV or LCD’s connection anywhere in the home.	

3	LED Indication : 1 to 4 & Power Keypad Selection on front panel : 1 to 4 Remote Keypad / Contact closure: D9M x 1 RS232 interface for control : D9F x 1	
4	It provides commercial grade output with several control options for switching.	
5	The unit is controlled through a front panel source selection switches with provision for RS232C & contact closure. It can also be controlled through IR remote Control, RF remote control or also through remote IP address.	
6	The unit also senses which input has the signal and switch the TV to that source automatically in auto mode. The resolution that the splitter supports are 720i, 720P, 1080i, & 1080P. Units are compatible with any of the controllers available in market.	
7	Operating Distance for Remote Key Pad 30 Meter	
8	Mode of Operation 1. Manual : From front panel 2. Auto : Auto sensing 3. Scan (optional) : Auto channel scan	
	<b>Cable accessories:</b>	
9	Speaker cables, Mike Cable, Audio and Video Cables (lumpsum)	

**(13 ) Technical Specifications Leased Line V.35 Router****Make :****Model:**

S. No	Description	Specifications	Compliance Yes /NO
1	Physical Interface Card Slots	Minimum 2 slots	
2	WAN ports (2 Mbps Serial -V.35)	1	
3	LAN Ports	2 x FE and support for additional interfaces	
4	CPU Performance	Minimum 70 Kpps	

5	Interface Cards Supported	Should support V.35 Serial Sync/Async Serial Analog Modem Cards E1/T1 ISDN BRI Additional 4 port / 8 port Fast Ethernet Switch Cards.	
		Should accommodate a combination of Sync / Async Serial, ISDN BRI, E1, E1 G703, E1 – DI (Drop and Insert), SHDSL, Analog Modem interface, 802.11 a/b/g	
6	Memory	Memory capacity should be 128 MB and upgradeable upto 256 MB	
7	Flash	Minimum Flash should be 32 MB and upgradeable upto 128 MB	
8	Internal Slot	The router shall have atleast 1 internal Slot to support a hardware assisted IPSec 3DES encryption performance up to 25 Mbps	
9	USB Ports	Should have minimum of 1 USB port	
	<b>Router software features</b>		
1	WAN Protocols	HDLC PPP	
2	Routing Protocols	OSPF BGP RIP v1 & V2 IS-IS Static Routes.	
3	Multimedia and QoS Support	Queuing Policing & Shaping	

		Traffic Prioritization	
		Differentiated Services,	
		Committed access rate	
4	Multicast Features	IP multicasting support	
5	IPv6 Features	Support for IPv6 from Day1	
6	Security Features	<b>Hardware Encryption support</b>	
7	VPN Support	VPN Support – To Support IP Security (IPSec)	
		VPN (Advanced Encryption Standard [AES])	
		Triple Digital Encryption Standard [3DES]	
		DES	
		DMVPN – To support Dynamic Multipoint VPN	
		Should Support MPLS VPN features	
8	Access Control Lists	Standard/Extended	
		Reflexive (stateful)	
		Dynamic (time of day)	
		Access lists based on Network Address , Mask, Protocol Type and Socket Type	
		Access List Violation logging And	
		Accounting should be provided	
9	Support for other security Features	NAT/PAT	
		RADIUS/TACACS+	
		Local	
		DHCP	
		Stateful firewall should be supported	
		IPS should be supported	
10	Logging Options	Syslog and local	
11	Router Redundancy support	HSRP, VRRP or equivalent	
12	SNMP Support	SNMP v1, v2, v3	

13	Control and Troubleshooting	CLI (Telnet) and Consol GUI (Web)	
	<b>General Specifications</b>		
14	<b>Number of Free Slots</b>	One	
15	Power Specifications	100-240V AC with suitable OEM Power Cord for India	
16	Temperature	0-40C(32-104F)	
17	Humidity	5-95% non condensing	
18	SSL VPN	SSL VPN Should be Supported	
19	<b>Compatibility</b>	Should interface with existing Cisco Works & HP Open View Network Management Software in TNSWAN on need basis.	

**(14) Technical Specifications for 8 Port Network Manageable Ethernet Switch**

**Make:**

**Model:**

Sl. No	Descriptions	Compliance Yes/No
1	Hi-speed, network manageable inter-workgroup or enterprise-edge switching	
2	All wire-speed forwarding, non-congestion design 3.2/6.4/9.6 Gbps switch fabric, dedicated ASIC for switching	
3	Local security policy restricts illegal access IEEE 802.1x port-based user authentication Port trunking increases bandwidth and redundancy	
4	Automatic recognition for straight-through or cross-over cables Stackable through cluster technology. Central management with unified IP address saves IP addresses Management via CONSOLE port, SNMP, Web, Telnet, etc.. Software and Boot Rom upgrade through TFTP	

5	Auto-detection and restraining of broadcast storm, IGMP snooping, effectively restrict broadcast flooding Full- and half- duplex traffic control. Ethernet port rate limiting with 64 K step size (1 M step size for rate over 1.8 M) Advanced buffer management, 802.1p support. 4 dispatching queues per port, mapping the 8 priority queues in 802.1p and QoS support	
6	Spanning Tree : IEEE 802.1D STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP VLAN : Port-based VLAN, 802.1Q tag VLAN, GVRP dynamic VLAN configuration. Size: 4 K	
7	Power Input : AC 100~240 V, 47 ~ 63 Hz, 1A/230V	
8	Security : IEEE 802.1x port-based user authentication, RADIUS	
9	<b>Switching Mode :</b> Store-and-forward	
10	<b>Network Management :</b> SNMP, RMON, Telnet, Command Line Interface (CLI) Support TECHROUTES network management tools suite: Broad Director, and other general network management software	

**(15) Technical Specifications for pair of Leased line Modem ( G.703 & V.35)****Make :****Model:****2Mbps Leased Line AC/DC modem (G.703) specification**

SI.No	Specification	Compliance Yes /No
1	2 Wire upgradeable to 4 Wire short Range modem operating in full duplex with TEC Interface approval for 2 and 4 wire	
2	Should support multiple data rates between 64 – 2048Kbps	

3	The Line Coding should be TCPAM as per ITU-T G.991.2	
4	The Operating Range should be 5.5km over 24AWG (0.5mm) at 2Mbps supported by TEC Certificate	
5	Should support Variety of data interfaces , G.703, G.704. Should support framed and Un framed channel	
6	Should have high performance over low quality lines	
7	Should operate with INT, EXT and LBT clock	
8	Should support ITU V.54 Diagnostics	
9	Not required	
10	Should use Adaptive equalizer for background noise immunity.	
11	Should have Front Panel buttons for Diagnostics and In built BERT.	
12	Should have Line protection circuits against Lightning and Power surges.	
13	Should work in unconditioned telephone line 19AWG to 26AWG	
14	Should support level upto 14 dBm	
15	Should support 135 Ohms Line Impedance.	
16	Line Code and Transmission specification as per ITU-T.G.991.2	
17	Connector: 3 Pin Terminal Block or RJ45 Jack	
18	Should work in 48VDC and 230VAC.	
19	Able to withstand in 0 to 50 degree Celcius or 122 degree F	
20	Humidity : upto 90% non-condensing	
21	Not required.	
22	The modem should have a valid TEC-INTERFACE approval	
	SNMP Features	
23	Via Built-in Ethernet Port with SNMP with Traps and HTTP Agents	

24	Monitoring through ICMP Ping	
25	Status monitoring with 15 minute intervals for 30 days	
26	Baud Rate selection from nx64Kbps up to 2048 Kbps	
27	Remote configuration of slave modem from master modem	

**2Mbps Leased Line AC/DC modem ( V.35 ) specification**

Sl.No	Specification	Compliance Yes /No
1	2 Wire upgradeable to 4 Wire short Range modem operating in full duplex with TEC Interface approval for 2 and 4 wire	
2	Should support multiple data rates between 64 – 2048Kbps	
3	The Line Coding should be TCPAM as per ITU-T G.991.2	
4	The Operating Range should be 5.5km over 24AWG (0.5mm) at 2Mbps supported by TEC Certificate	
5	Should support variety of data interfaces V.35, G.703 E1	
6	Should have high performance over low quality lines	
7	Should operate with INT, EXT and LBT clock.	
8	Should support ITU V.54 Diagnostics.	
9	Not required	
10	Should use Adaptive equalizer for background noise immunity.	
11	Should have Front Panel buttons for Diagnostics and In built BERT.	
12	Should have Line protection circuits against Lightning and Power surges.	
13	Should work in unconditioned telephone line 19AWG to 26AWG.	
14	Should support level upto 14 dBm.	

15	Should support 135 Ohms Line Impedance.	
16	Line Code and Transmission specification as per ITU-T.G.991.2	
17	Connector: 3 Pin Terminal Block or RJ45 Jack	
18	Should work in 48VDC and 230VAC	
19	Able to withstand in 0 to 50 degree Celsius or 122 degree F	
20	Humidity : upto 90% non-condensing	
21	Not required.	
22	The modem should have a valid TEC-INTERFACE approval	
	SNMP Features	
23	Via Built-in Ethernet Port with SNMP with Traps and HTTP Agents	
24	Monitoring through ICMP Ping	
25	Status monitoring with 15 minute intervals for 30 days	
26	Baud Rate selection from nx64Kbps up to 2048 Kbps	
27	Remote configuration of slave modem from master modem	

#### **(16) Specifications for Wood Work**

**Make:**

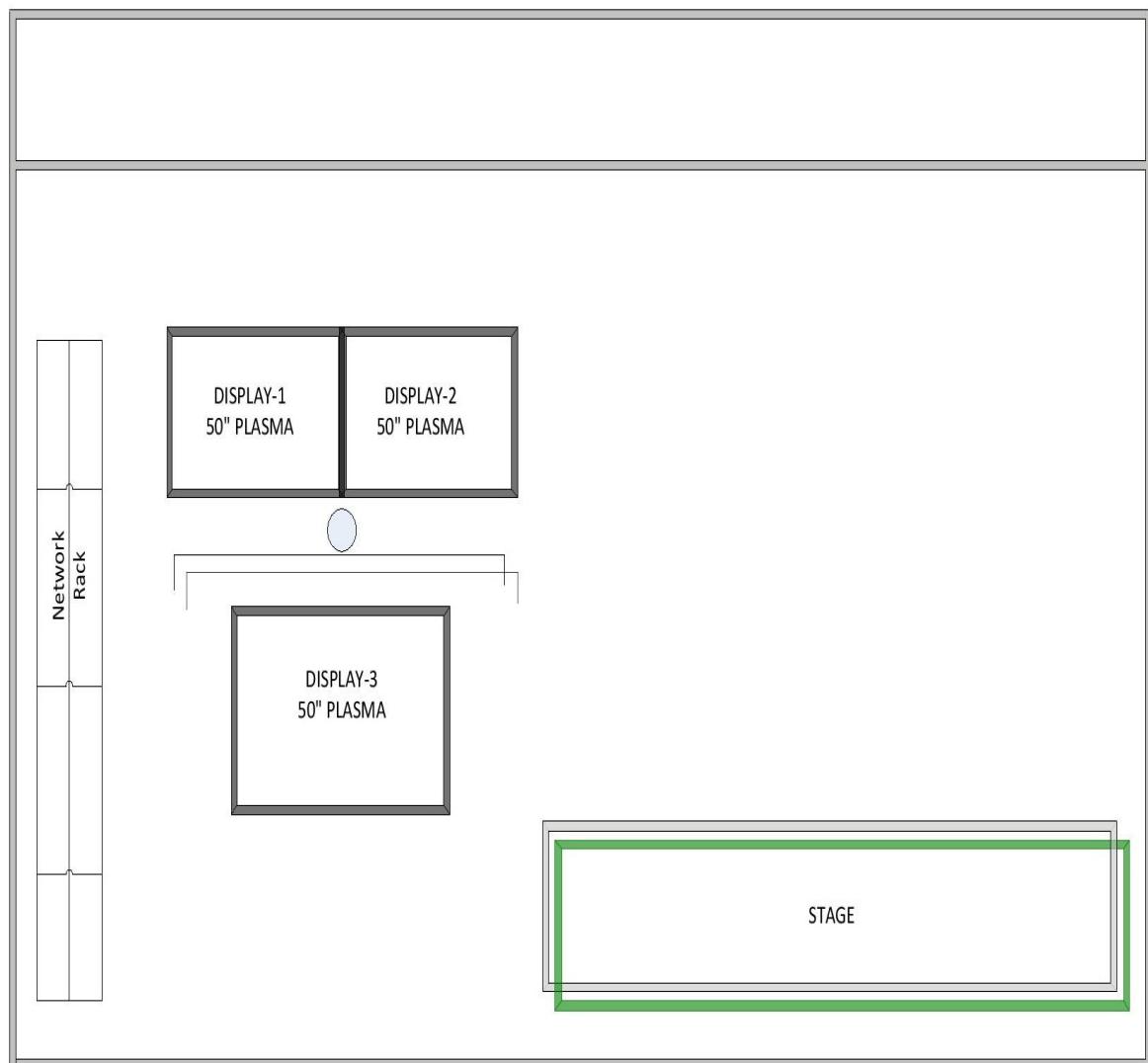
**Model :**

Sl. No	Descriptions	Compliance Yes/No
1	Wooden Work with Door with Frame work	
2	Veneer finishing for the area of 150 sq.ft, Wooden cupboard/rack work for keeping the system and materials 100sq ft as per the diagram enclosed.	

**Proposed Diagram:**



**Line Diagram:**



**(17) Manpower charges Per Engineer Per Month to operate the Video Conferencing endpoint**

Sl.No	Description	Compliance Yes /No
1	Comprehensive Charges Per Engineer Per Month to operate the Video conferencing system at site in anywhere in Tamilnadu	

**(18) Manpower charges Per Engineer Per Month to operate the MCU, Video Conferencing & Video wall**

Sl.No	Description	Compliance Yes /No
1	Manpower to operate the MCU, Video Conferencing systems & Video Wall for the period per month	

Optional Items**(1) Technical Specifications for Set top 720pHD Video conferencing endpoint****Make:****Model:**

Sl. No	Descriptions	Compliance Yes/No
1	The system should be a point to point system with Codec, HD 720p camera, Mic, remote control, cables and power supply. The system should be capable of giving 720p, 30fps, the system should also be upgradable to multisite in future if required. The system should work @20p 30fps in sharpness video mode and 15fps in motion video mode.	
2	<p><b>Video Standards:</b>            H.263, H.264            H.264 in an Encrypted call should be possible            H.264 should be possible when sending or receiving two live video sources e.g. Presenter and Presentation.</p>	
3	<p><b>Video Frame Rate:</b>            Should support 30 fps with 720p resolution from day one</p>	
4	<p><b>Video Features:</b>            Ability to send and receive two live simultaneous video sources in a single call, so that the image from the main camera and PC or document camera can be seen simultaneously.            Should support H.239 and BFCP protocols with 720p resolution</p>	
5	<p><b>Video Output:</b>            Should have at least 2 nos. of High Definition Multimedia Interface ( HDMI or DVI or combination) output to connect Full High Definition display devices such as plasma and projectors for both Video and Content.(Dual Monitor Support)            It should be possible to display the main video on one HD screen and the presentation/dual video on the other HD screen.</p>	

6	<p><b>Video Input:</b></p> <p>Should have at least one HD video Input to connect HD camera with full functionalities as mentioned in the camera specifications</p> <p>Should support DVI ( Digital Video Interface) input to connect PC/ Laptop directly to the Video conferencing system and display resolutions from WXGA (1280 x 768) to 1080p (1920 x 1080) along with PC Audio</p>	
7	<p><b>Audio standards:</b></p> <p>Supported G.711, G.722,G.722.1, AAC-LD or equivalent standard must be supported..</p>	
8	<p><b>Other Desirable features:</b></p> <p>Noise Reduction, Automatic Gain control, Acoustic Echo Canceller, Active Lip synchronization</p>	
9	<p><b>Audio Inputs:</b></p> <p>Should support 2 Microphone inputs from day one whereas, one mic should be supplied with each endpoint day one</p> <p>The microphones must be standard based microphones.</p> <p>The pickup of the microphones should be at least 10 feet from the microphone.</p> <p>Echo Cancellation for every input must be available.</p>	
10	<p><b>External devices:</b></p> <p>The unit should be supplied with Wireless Remote Control or a Touch Panel</p>	
11	<p><b>Network Interfaces:</b></p> <p>1 x LAN /Ethernet--10/100 Mbps full duplex</p> <p>Should have support for IPV4 and IPV6</p>	
12	<p><b>Bandwidth:</b></p> <p>IP--at least 4 Mbps</p>	
13	<p><b>Network Capabilities:</b></p> <p>Packet Loss Based down speeding</p>	
14	<p><b>H.323/ IP Features:</b></p> <p>IP adaptive bandwidth management (including flow control)</p> <p>Gatekeeper discovery (Auto / Manual)</p> <p>Network Address Translation (NAT) support (Auto / Manual)</p> <p>Standards based- Packet Loss Recovery feature on H.323 call</p> <p>Should support URL Dialling</p> <p>Support for H.245 DTMF tones in H.323</p>	

15	<b>SIP Features:</b> The endpoints must support SIP in addition to H323 protocol. Calls can be made on SIP or H323 without having to restart or reconfigure the endpoint. The endpoint must register with any standard SIP server. Please list the supported SIP servers. Must support data sharing capability in SIP calls for dual stream transmit and receive.	
16	<b>Security : Menu Control:</b> Password protected system menu	
17	<b>Encryption of video call:</b> ITU-T standards based Encryption of the video call Call should be encrypted end-to-end on IP Should support Standards-based: H.235 v3 and AES Encryption via Automatic key generation and exchange. The same should be available in a call with Video with presentation (dual video) Ability to manually turn encryption On or OFF should be there. Automatic key generation and exchange	
18	<b>Camera:</b> Minimum of 10X optical zoom 720P pixels progressive @ 30fps The Camera and codec should be from the same manufacturer. Should have at least 70 degrees field of view (horizontal)	
19	<b>Directory services:</b> Should support Local and Global directories Should support LDAP and H.350 protocols for directory transfer.	

**(2) Technical Specifications for 20 site MCU (Multi control Unit)****Make:****Model:**

Sl. No	Descriptions	Compliance Yes/No
1	Capacity: Should have the ability to connect at least 20 video sites from day one in a MCU without cascading.	

2	<b>Video quality performance:</b> All 20 video ports must support 30 fps of 720p resolution or 10 ports 1080p resolution in symmetric from day one. The MCU should support 40 ports SD from day one as well. Should support H.264 even in Continuous presence	
3	<b>Bandwidth per port:</b> 4Mbps	
4	<b>Video Standards:</b> Should support H.263, H.264 video algorithms	
5	<b>Video Resolution:</b> Should support video resolution from QCIF to 1080p without losing ports	
6	<b>Audio Standards:</b> Along with the Support for basic algorithms like G.711 and G.722.1 the MCU should also support wideband Audio protocols like MPEG 4 AAC - LC and/or MPEG 4 AAC - LD or equivalent	
7	<b>IP protocols:</b> The MCU should support H.323 and SIP protocols Must have support for IPV6.	
8	<b>Transcoding &amp; Rate Matching:</b> The MCU should support transcoding of different Audio/video Protocols. MCU should be able to combine HD and SD in the same conference The MCU should have an video encode resource per participant	
9	<b>Dual Video:</b> The MCU should support H.239 for sending and receiving dual video streams (Presenter + Presentation)	
10	<b>Conference Features:</b> The MCU should have external scheduling and reservation The layout from MCU must utilize the screen space efficiently and every video pane in a multiparty layout should have thin borders. The MCU shall interoperate with multiple vendor endpoints. The MCU should support latest audio and video standards. MCU should have the ability to transcode/rate match/scale up the resolution of SD endpoints in conference.	

11	<b>Network Resilience:</b> Should support intelligent down speeding, recover to original speed and packet loss concealment, Should support H.323 Gatekeeper functionality	
12	<b>Security:</b> The MCU must be a secure Non-PC Hardware with a strong operating system. The MCU should support 128 Bit strong AES encryption for calls and H.235 for authentication; The MCU must support encryption for calls on SIP.	
13	<b>Network Interface:</b> Must support 2x 10/100 Mbps ethernet port, they should be provided by externally if needed.	

**(3) Technical Specifications for Executive Desktop Video Conferencing****Make:****Model:**

Sl. No	Descriptions	Compliance Yes/No
1	The system should be a point to point system with OEM integrated display of 23" size or more, Codec, HD 720p/1080p camera with 1.5x digital zoom / Optical zoom or higher, Mic , remote control, cables and power supply , The system should be capable of giving HD 720p @60fps.	
2	Video : Video Standards H.263, H.264 H.264 in an Encrypted call should be possible H.264 should be possible when sending or receiving two live video sources e.g. Presenter and Presentation.	
3	Video Frame Rate Should support 60 fps with 720p resolution from day one The unit should support HD 720p@60fps and 1080p 30 fps Day One .	
4	Video Features Ability to send and receive two live simultaneous video sources in a single call, so that the image from the main camera and PC or document camera can be seen simultaneously.	

5	<p><b>Video Input</b>        Should have at least one HD video Input to connect HD camera with full functionalities as mentioned in the camera specifications        Should have DVI ( Digital Video Interface) input to connect PC/ Laptop directly to the Video conferencing system and display resolutions from WXGA (1280 x 768) to 1080p (1920 x 1080) along with PC Audio</p>	
6	<p><b>Audio : Audio standards supported</b>        G.711, G.722, G.722.1, 64 kbps MPEG-4 AAC-LD or equivalent standard must be supported.</p>	
7	<p><b>Other Desirable features</b>        Noise Reduction, Automatic Gain control, Acoustic Echo Canceller, Active Lip synchronization</p>	
8	<p><b>Audio Inputs</b>        Should support 2 Microphone inputs either inbuilt / External from day one whereas, one mic should be supplied with each endpoint day one        The microphones must be standard based microphones.        The pick up of the microphones should be at least 7 feet from the microphone.        Echo Cancellation for every input must be available.</p>	
9	<p><b>External devices</b>        The unit should be supplied with Wireless Remote Control</p>	
10	<p><b>Network Interfaces</b>        2 x LAN /Ethernet--10/100 Mbps full duplex        Should have support for IPV4 and IPV6</p>	
11	<p><b>Bandwidth</b>        IP--at least 4 Mbps</p>	
12	<p><b>Network Capabilities</b>        Packet Loss Based Down speeding</p>	
14	<p><b>H.323/ IP Features</b>        Differentiated Services (QOS)        IP adaptive bandwidth management (including flow control)        Gatekeeper discovery(Auto/Manual)        Network Address Translation (NAT) support (Auto/Manual)        Standards based- Packet Loss Recovery feature on H.323 call        Should support URL Dialling        Support for H.245 DTMF tones in H.323</p>	

15	SIP Features The endpoints must support SIP in addition to H323 protocol. Calls can be made on SIP or H323 without having to restart or reconfigure the endpoint. The endpoint must register with any standard SIP server. Must support data sharing capability in SIP calls for dual stream transmit and receive.	
16	Security : Menu Control Password protected system menu	
17	Encryption of video call ITU-T standards based Encryption of the video call Call should be encrypted end-to-end on IP Should support Standards-based: H.235 v3 and AES Encryption via Automatic key generation and exchange. The same should be available in a call with Video with presentation (dual video) Ability to manually turn encryption On or OFF should be there. Automatic key generation and exchange	
18	Directory services Should support Local and Global directories Should support LDAP and H.350 protocols for directory transfer.	

**(4) Technical Specifications for Quad BRI Module for Full HD 1080P Video Conferencing Endpoint**

**Make:**

**Model:**

Sl. No	Descriptions	Compliance Yes/No
1	This module should support upto four ISDN line. 2 video calls @ 256Kbps, 1 video call @ 384Kbps	

**(5) Technical Specifications for PRI Module for 10 port / 20 port MCU****Make:****Model:**

Sl. No	Descriptions	Compliance Yes/No
1	This module should support 2 ISDN PRI T1/E1 interface. 5 video calls @ 384Kbps 2 video calls @ 768Kbps 1 video calls @ full E1	

**(6) Technical Specifications For Desktop Computer****Make:****Model:**

Sl. No	Feature Description	Compliance Yes /No
1	Up to 2 <sup>nd</sup> generation Intel Core™ i7 processor with Intel Turbo Boost technology 2.0	
2	Up to Genuine Windows 7 Professional	
3	Lenovo Enhanced Experience 2.0 for Windows 7 with Rapid Boot technology—delivers faster start-up and shutdown and optimized multimedia capabilities	
4	Up to AMD Radeon™ HD 6570 1GB graphics with DirectX 11 or NVIDIA GeForce GT 530 1GB graphics with DirectX 11	
5	Up to 8GB DDR3 memory, up to 2TB HDD storage, Integrated 802.11n Wi-Fi	
6	Integrated DVD reader/writer and Blu-ray Disc™1 drive	
7	USB 2.0, USB 3.0	
8	connectors and 8-in-1 card reader	

**(7) Technical Specifications For Laptop****Make:****Model:**

Sl.No	Feature Description	Compliance Yes /No
1	Processor: 3rd Generation Intel® Core™ i7-3520M (2.90 GHz, 4MB L3, 1600MHz FSB)	
2	Operating System: Windows 8 Pro, Windows 7 Professional	
3	Memory: 4GB, 8GB (DDR3)	
4	Storage: HDD: 500GB, 1TB (5400rpm)	
5	Video Graphics: Intel HD graphics 4000 (integrated)	
6	Audio: Dolby Advanced Audio™ v2	
7	Webcam: Low-Light 720p HD (with Face Tracking)	
8	Keyboard: Precision six-row, spill-resistant keyboard	
9	I/O Ports: 1 VGA port, 1 USB 3.0, 3 USB 2.0 (1 always on), RJ45 4-in-1 SD Card Reader (SD/SDHC/SDXC/MMC slot), 1 MiniDisplayPort with audio, 1 3.5mm combo mic/headphone Jack, Express Card 54mm4 (configurable) Smart Card Reader4 (optional)	
10	Bluetooth: Bluetooth 4.0	
11	WLAN: Intel WLAN, ThinkPad WLAN	
12	Optical Devices: DVD ROM Read-Only, Multi Burner/DVD CD Multi Rec	
13	Preloaded Applications: Adobe Acrobat Reader, Intel® Learning Series Software Suite, Microsoft® Office 2013 (purchase of product key required for activation), Microsoft® Windows Live Essentials 2011, Norton Internet Security 2012	
14	Supported TVT Tools: Access Connections 5.9, Active Protective System, Password Manager 4.0, Power Manager 6.0	

**(8) Technical Specifications for Windows 2008/2012 server software License**

**Make:**

**Model:**

Sl. No	Descriptions	Compliance Yes/No
1	Window server standard 2012 Single OLP NL 2 Proc with Multi User accounts	
2	<p>A complete virtualization platform that delivers a fully isolated, multitenant environment that includes tools to help guarantee service-level agreements (SLAs), enables chargebacks through use-based billing, and supports self-service delivery.</p> <p>Increased scalability and performance through a high-density, scalable environment that can adapt to perform optimally based on your changing needs.</p>	
3	<p>Flexible storage. Improve performance, availability, and storage resource efficiency with the storage of your choice.</p> <p>Continuous availability. Provide cost-effective, highly available services-with protection against a wide range of failure scenarios-for a single server or an entire data center.</p>	
4	Access from virtually anywhere, from any device. Seamless, on-demand access to a virtualized work environment from virtually anywhere, including branch locations and public connectivity services.	
5	Enhanced data security and compliance. Central audit and access policies enable granular access to data and corporate resources based on strong identity, data classification, and simplified administration for remote access.	
6	Management efficiency. Windows Server 2012 helps IT departments automate a broad set of management tasks and simplify the deployment of server roles as you move toward full, lights-out automation.	

**(9) Technical Specifications for 55" inch LED Display****Make:****Model:**

<b>Sl. No</b>	<b>Item Description</b>	<b>Specifications</b>	<b>Compliance (Yes/No)</b>
1	Contrast	5000:1	
2	View Angle	178 / 178 degree	
3	Response Time	8 ms	
4	Resolution	1920*1080 (full high definition TV)	
5	Brightness	350 nits	
6	Sound Output	10W*2	
7	S video	1	
8	Composite (AV)	2	
9	Head Phone	1	
10	RF Antenna Interface	2	
11	USB	1	
12	Component Video	1	
13	PIP	1	
14	Storage	4GB (1.2GB Occupied by O/S, 2.8GB Available)	
15	Standby Power	<2W	
16	HDMI input socket – rear side	2	
17	HDMI input socket – Front side	1	
18	PC input (VGA)	1	
19	Number of Programs	199 or More	
20	Graphics Card	2D & 3D Engine Graphics	
21	Color System	PAL/NTSC/SECAM	
22	Multimedia	Video Decoder - MPEG-1/2, H.264/AVC (Dual) - VC-1, JPEG, PNG Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc	

23	Reception Channels	VHF Channels E2 to E4, E5 to E12, X, Y, Z, Z+1, Z+2 UHF Channels S1 to S41	
24	Auto Tuning on Remote	Should be available	
25	Manual Search and Adjust (fine Tune for picture clarity)	Should be available	
26	Audio Mute	Should be available in remote	
27	Recall Previous programme	should be available	
28	Front or Rear A-V IN & Out All RCA Socket	Should be available	
29	Power supply	110-240V AC, 50 Hz	
30	Power Consumption	300 Watts	
	<b>Accessories</b>		
31	Remote Control Unit with batteries	1 no	
32	Wall mounting kit	1 no	
33	Speaker	Built-in	
34	Cables	Cables HDMI Cable – 2 nos. AV Cable – 2 nos. SVideo Cable – 1 no.	

#### (10) Technical Specifications for 65" inch LED Display

**Make:**

**Model:**

Sl. No	Item Description	Specifications	Compliance (Yes/No)
1	Contrast	5000:1	
2	View Angle	178 / 178 degree	
3	Response Time	5.5 ms	
4	Resolution	1920*1080 (full high definition TV)	
5	Brightness	450 nits	
6	Sound Output	10W*2	
7	S video	1	
8	Composite (AV)	2	

9	Head Phone	1	
10	RF Antenna Interface	2	
11	USB	1	
12	Component Video	1	
13	Storage	4GB (1.2GB Occupied by O/S, 2.8GB Available)	
14	PIP	1	
15	Standby Power	<2W	
16	HDMI input socket – rear side	2	
17	HDMI input socket – Front side	1	
18	PC input (VGA)	1	
19	Number of Programs	199 or More	
20	Graphics Card	2D & 3D Engine Graphics	
21	Color System	PAL/NTSC/SECAM	
22	Reception Channels	VHF Channels E2 to E4, E5 to E12, X, Y, Z, Z+1, Z+2 UHF Channels S1 to S41	
23	Multimedia	Video Decoder - MPEG-1/2, H.264/AVC (Dual) - VC-1, JPEG, PNG Audio DSP (Decoder) - AC3 (DD), MPEG, DTS and etc	
24	Auto Tuning on Remote	Should be available	
25	Manual Search and Adjust (fine Tune for picture clarity)	Should be available	
26	Audio Mute	Should be available in remote	
27	Recall Previous programme	should be available	
28	Front or Rear A-V IN & Out All RCA Socket	Should be available	
29	Power supply	110-240V AC, 50 Hz	
30	Power Consumption	300 Watts	
	<b>Accessories</b>		
31	Remote Control Unit with batteries	1 no	

32	Wall mounting kit	1 no	
33	Speaker	Built-in	
34	Cables	Cables HDMI Cable – 2 nos.	
		AV Cable – 2 nos.	
		SVideo Cable – 1 no.	

**(11) Technical Specifications for Pedestal Trolley****Make:****Model:**

Sl. No	Descriptions	Compliance Yes/No
1	Pedestal Trolley for mounting 32" to 55" LED Display with the provision to place a Video Conferencing System on it under the LED Display	

**(12) Technical Specifications for 27U Audio-Visual Rack****Make :****Model :**

Sl. No	Descriptions	Compliance Yes/No
1	Valrack, 19" 27U 600mm width / 600mm Depth MS Pro rack	
2	Colour: Grey, Lockable & Removable Front Glass Toughened Door with Ventilation	
3	Top & Bottom Plate with cable Entry covered by rubber Grommets	
4	Johnson Castors sets of 4 no's	
5	Rack chassis and posts constructed from 2mm steel and 1.6mm sheet metal, The rack top with pre-punched ventilation as standard	
6	Sheets are punched and folded under computer control for complete accuracy	
7	Finished in a durable and attractive gannet (matt grey) powder coat finish specifically formulated for this application	

8	Material: 2.0mm steel and 1.6mm sheet metal	
9	Optional Accessories: Fan Roof Top Mounted Power Manager (6X5 Amp) Horizontal Cable Manager 1U Hardware Screws (Pack of 20) Heavy duty shelf	

**(13) Technical Specifications for Audio conferencing Phone****Make:****Model:**

<b>Sl. No</b>	<b>Descriptions</b>	<b>Compliance Yes/No</b>
1	Best suited for board rooms and large conference rooms with groups greater than 10 people	
2	Omni Sound — powerful crystal clear sound to provide seamless productivity	
3	Web-based configuration to import/export contacts and settings	
4	A conference Guide that easily helps you set up group calls with the touch of a button	
5	Optical expansion microphone that increases range upto 750 sqft	
6	SD-memory card to record your meetings and conference calls for playback or to archive for later use	
7	A Phone Book for quick access to your key contacts	
8	User profiles for storing personal contact details and settings	
9	Optional wireless headset connection and PA system to meet the sound requirements for larger groups	
10	Hold up-to 5-way conference calls	
11	Speakers: frequency range: 200–7000 Hz Volume: Max 90 db SPL 0.5 m Equalizer: soft, neutral and bright	
12	LANGUAGE VERSIONS: User Interface: Danish, English, Finnish, French, Italian, Dutch, Norwegian, Polish, Spanish, Swedish, Turkish, German, Russian.	
13	DISPLAY AND KEYPAD: Display: Illuminated graphics LCD, 128x64PX (5x2,5 in). Keypad: Alphanumeric 0–9, on/R, off, mute, hold, volume up, volume down, 5 buttons for menu navigation, line (line mode), and Conference guide.	

**(14) Technical Specifications for 12 Channel Audio Mixer****Make:****Model :**

<b>Sl. No</b>	<b>Descriptions</b>	<b>Compliance Yes/No</b>
1	Frequency Response: 20Hz to 20kHz +/-0.5dB	
2	Input channel 12 Output channel 2 2 configurable auxiliary buses XLR-type and 1/4" metal jack connector sockets RCA phono stereo playback inputs and record outputs 3-band EQ with a swept mid on mono inputs 2-band EQ on stereo inputs TRS insert sockets and inserts on all mono inputs and mix output	
3	Mic Input EIN : 22Hz-22kHz unweighted	
4	Ten-segment LED output metering Intuitive and comprehensive solo system Headphone output Easily rack mountable	
5	Microphone Input: 2.4kohm, Line Input: 11Kohm, Stereo Input: 100Kohm, Output: 75Ohm	
6	Applicable for live music, recording, houses of worship and multi-speaker installations	
7	RCA phono stereo playback inputs and record outputs	
8	Headphone output	
9	Power Supply: Integral lightweight switched-mode PSU	
10	TRS insert sockets and inserts on all mono inputs and mix output	
11	Dimensions: 432mm(17")W, 90.5mm(3.56")H, 362mm(14.25")D	
12	Weight: 6.7kgs(14.77lbs)	

**(15) Technical Specifications for Dual channel 250W Amplifier****Make:****Model :**

<b>Sl. No</b>	<b>Descriptions</b>	<b>Compliance Yes/No</b>
1	Power Output: 250W RMS at 10% THD/300W RMS Max.	
2	Input channels: Mic: 6XMic 0.65mV/4.7kohm Aux: 2XAux 100mV/470kohm 1XLine 1V/50kohm	
3	Frequency response: 50 Hz to 15Khz, 3dB	
4	Tone controls: Base: 10dB at 100Hz Treble: 10dB at 10kHz	
5	Speaker Output: 4ohm, 8ohm, 70V & 100V	
6	Dimension: W450 X H160 X D340mm	
7	Weight: 16kg	

**(16) Technical Specifications for 30W Wall Mount Speaker****Make:****Model :**

<b>Sl. No</b>	<b>Descriptions</b>	<b>Compliance Yes/No</b>
1	Frequency range (86db): 85Hz–20kHz	
2	Power Capacity: 30 W RMS	
3	Sensitivity 1W, 1m: 86dB	
4	Nominal impedance: 8 ohms	
5	Components: 4inch Polypropylene coated woofer, 1inch Titanium coated horn loaded tweeter.	
6	Full-Range power limiting to protect network and transducers	
7	Should support 100V/ 8 ohms connectivity	

8	Weather resistant enclosure and transducer	
9	Net weight (each):2.5kg	

**(17) Technical Specifications for Lapel Wireless Microphone with Receiver****Make:****Model :**

Sl. No	Descriptions	Compliance Yes/No
1	Frequency Response: 60 hz – 12 Khz	
2	SVX4 Diversity Receiver, and with	
3	SVX1 Bodypack Transmitter	
4	PG185 Lavalier Microphone	
5	Audio Input level: -7 to -15 dBV	
6	RF Output: 10mV max	
7	Receiver Features: Plastic enclosure with integrated antenna	
8	Microphone clip for securely clamping the microphone to your clothes or tie included	
9	Weight: 90g without batteries	

**(18) Technical Specifications for Handheld Wireless Microphone with Receiver****Make :****Model :**

Sl. No	Descriptions	Compliance Yes/No
1	Frequency Response: 60 Hz to 15kHZ	
2	Handheld Transmitter with Microphone	

3	Diversity Receiver	
4	Maximum Output Level: -19 dBV (XLR), -5 dBV (1/4")	
5	Operating Range: LO power mode: 18 m (60 ft.) HI power mode: 75 m (250 ft.)	
6	Transmitter RF Output Power: LO power mode: 1 mW maximum HI power mode: 10 mW maximum	
7	Transducer Type: Dynamic	
8	Polar Pattern: Cardioid	
9	Sensitivity (1Khz): -53dBV/pa/2,2mv/pa	
10	Weight: 321g	
11	Includes 15ft. (4.57m) cable, break-resistant mic clip and storage bag	

#### (19) Technical Specifications for Wired Microphone

**Make:**

**Model:**

Sl. No	Descriptions	Compliance Yes/No
1	Tailored frequency response is smooth and extended. Tuned specifically for vocal applications	
2	Cardioid polar pattern picks up the most sound from in front of the microphone and some sound from the sides. Less susceptible to feedback in high volume settings.	
3	Dynamic cartridge has a simple, rugged coil. Handles extreme volume levels without distortion	
4	On/off switch for onstage control	
5	Durable metal construction.	
6	Steel mesh ball grille with integral "pop" filter reduces explosive breath sounds and wind noise	
7	Frequency Response 70 to 15,000 Hz	
8	Output Impedance (at 1000 Hz) 600 ohms	

9	Microphone Type Dynamic (moving coil)	
10	Polar Pattern Cardioid (unidirectional)	
11	Sensitivity (at 1000 Hz) -52 dBV/Pa, (2.5 mV), 1 Pascal = 94 dB SPL	
12	Connector Three-pin professional audio connector (male XLR type)	
13	Case Die cast metal handle, black matte finish; hardened silver colored, spherical steel mesh grille Weight Net: 314 grams (11.1 oz) Packaged: 890 g (1 lb 15 oz)	

**(20) Technical Specifications for CAT 6 cabling**

**Make:**

**Model :**

Sl. No	Descriptions	Compliance Yes/No
1	Cat 6 Cabling with 3/4" inch PVC pipe	
2	Conductor: Stranded Bare Copper (7 x 32 AWG)	
3	Insulation: HDPE (CMI-75E) Nominal Wall Thickness: 0.178mm Min. Thickness: 0.153mm	
4	Electric Requirements: (Cable length: 100m) Characteristic Impedance( $Z_0$ ): 85~115Ω (1~250 MHz) DC. Resistance Capacitance Unbalance: 5% Pair-to-Ground Capacitance Unbalance: 330 pF/100m Max. Conductor Resistance: 14.00Ω/100m 200 Max. Mutual Capacitance: 5.6nF/m Max. Spark Test: 2.5kV Nominal Velocity of Propagation (NVP): 69%	

**(21) Technical Specifications for Mike Cable****Make:****Model :**

Sl. No	Descriptions	Compliance Yes/No
1	0.75 sqmm thickness	
2	16 American wire gauge	
3	2 core, 1 pair mike cable	
4	PVC insulation cable	

**(22) Technical Specifications for Speaker Cable****Make:****Model :**

Sl. No	Descriptions	Compliance Yes/No
1	Speaker cable make the electrical connection between loudspeakers and audio amplifiers , 22 AWG wire Gauge ( 50 Hz to 14 Khz Frequency response) 2 core, 1.5sqmm speaker cable, PVC Insulations	

<b>Part-2(A) - Price Bid Main Items</b>
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<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories</u></b>						
<b>S.No.</b>	<b>Description</b>	<b>SUPPLY with 3 year Warranty</b>				
		<b>Qty</b>  (A)	<b>Unit Price (in Rs.)</b>  (B)	<b>Total (in Rs.)</b>  C=(AxB)	<b>Sales tax on (C) (in Rs.)</b>  (D)	<b>Total with Tax (in Rs.)</b>  E=(C+D)
1	<b>Set top 1080p HD Video conferencing endpoint</b> 1. HD 1080P Codec 2. 1080P PTZ Camera 3. 360 degree Table Top Microphone 4. Remote Control 5. H.323 /SIP - 6 mbps Bandwidth 6. IP - LAN, WAN, broadband Internet 7. Video out to Dual Monitor 9. PC /Laptop input via HDMI/DVI port 10. HDMI /DVI Video out for Projector 11. H.239 Dual Video Transmission 12. Optional 4- site /8 site Multipoint over IP/ISDN	1				
2	<b>4 site Multipoint License</b> to support 1+3 sites Multipoint over IP /ISDN BRI network for set top	1				

<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories</u></b>					
	1080p HD Video conferencing endpoint				
3	<b>10 site Multipoint control Unit with 10port 720p HD/5 port full HD 1080P/ 20 ports SD Video support or desktop/ Mobile client support with required softwares and Firewall Traversal support with one Port Recording 720p video format</b>	1			
4	<b>Webcam for PC/Laptop Video conferencing</b> with Full HD video capture (up to 1920 X 1080 pixels)	1			
5	<b>USB Speaker Phone for PC/Laptop Video Conferencing supports</b> plug and play simplicity with wideband audio, which produces a rich and full sound, rather than the constricted sound often associated with PC, mobile phone and handset devices.	1			
6	<b>32 inch LED Display</b> with speaker, remote control, and wall mount kit along with all cables.	1			
7	<b>40 inch LED Display with</b> speaker, remote control, and wall mount kit along with all cables.	1			

<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories</u></b>						
8	<b>46 inch LED Display</b> with speaker, remote control, and wall mount kit along with all cables.	1				
9	<b>55 inch High Brightness LCD Display</b> with speaker, remote control, wall mount kit along with all cables.	1				
10	<b>110 inch Video wall</b> with Floor Mount with Wall bracket	1				
11	<b>1 KVA UPS</b> with 30 minutes back up	1				
12	<b>HDMI Video switcher, splitter,</b> Cables and accessories ( lump sum)	1				
13	<b>Leased Line Router</b> with Dual FE Ethernet port & Dual V.35 Port	1				
14	<b>8 port Fast Ethernet Manageable Switch</b>	1				
15	<b>Pair of Leased Line Modem</b> (one V.35 for customer end and one G.703 for Exchange end)	1				
16	<b>Wooden partition</b> with Door with frame work and veneer finishing for the area of 150 Sq ft, Wooden cupboard /rack work	1				

<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories</u></b>						
	for keeping the systems and materials 100 sq ft					
17	<b>Manpower charges Per Engineer</b> Per Month to operate the Video Conferencing endpoint	1				
18	<b>Manpower charges Per Engineer</b> Per Month to Operate the MCU, Video conferencing and Video Wall	1				
	<b>Sub Total (1)</b>					

<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with Accessories</u></b>					
<b>Part 2 (A) - (Main Items) - AMC Charges for 4<sup>th</sup> and 5<sup>th</sup> Year</b>					
S. No.	Description	Quantity in Nos.	AMC Charges in percent tage per annum	AMC charges (in Rs. per annum)	AMC charges for 2 years (In Rs.)
		(F)	(G)	(H)	(I)
1	Set top 1080P HD Video conferencing endpoint	1			
2	10 port Multipoint control Unit with 10port 720p HD/5 port full HD 1080P/ 20 ports SD Video support or desktop/ Mobile client support.	1			
3	Webcam for PC/Laptop Video conferencing	1			
4	USB Speaker Phone for PC/Laptop Video Conferencing	1			
5	<b>32 inch LED Display</b> with speaker, remote control, and wall mount kit along with all cables.	1			
6	<b>40 inch LED Display</b> with speaker, remote control, and wall mount kit along with all cables.	1			
7	<b>46 inch LED Display</b> with speaker, remote control, and wall mount kit along with all cables.	1			

<u><b>Rate Contract for Supply and Commissioning of Video Conferencing System with Accessories</b></u>					
8	<b>55inch High Brightness LCD Display</b> with speaker, remote control, wall mount kit along with all cables.	1			
9	<b>110 inch Video wall</b> with Floor Mount with Wall bracket	1			
10	<b>1 KVA UPS</b> with 30 minutes back up	1			
11	<b>HDMI video switcher, splitter, Cables and accessories ( lump sum)</b>	1			
12	<b>Leased Line Router</b> with Dual FE Ethernet port & Dual V.35 Port	1			
13	<b>8 port Fast Ethernet Manageable Switch</b>	1			
14	<b>Pair of Leased Line Modem</b> (one V.35 for customer end and one G.703 for Exchange end)	1			
	Sub Total on (J)				
	Service Tax @ 12.36% on Sub Total (J)				
	<b>Sub Total (2)</b>				

**Value of the Price Bid ( Life Cycle Cost) (K) = Sub Total (1) + Sub Total (2)**

**Note:**

- 1) The Grand Total Amount of (K) will be evaluated to arrive at the Lowest Price (L1 Price) as per the Price bid Evaluation clause no.6.5.3
- 2) The Bidder shall submit the offer by filling up all the columns against each Item. Bids with blank columns are liable for rejection.
- 3) Bidders should quote for all the items in the Package.
- 4) In cases of discrepancy between the cost quoted in Words and in Figures, the rates indicated by words will be considered

Signature of the authorised person:

Name of the authorised person:

Designation:

Name and Address of Bidder

Stamp of bidder

<b>Part-2(B) Price Bid (Optional items)</b>
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<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories</u></b>						
<b>S. No.</b>	<b>Description</b>	<b>SUPPLY with 3 year Warranty</b>				
		<b>Qty in Nos. (A)</b>	<b>Unit Price (in Rs.) (B)</b>	<b>Total (in Rs.) C=(AxB)</b>	<b>Sales tax on (C) (in Rs.) (D)</b>	<b>Total with Tax (in Rs.) E=(C+D)</b>
	<b>Optional Items:</b>					
1	<b>Set top 720P HD Video conferencing endpoint</b> 1. HD 720P Codec 2. 720P PTZ Camera 3. 360 degree Table Top Microphone 4. Remote Control 5. H.323 /SIP - 4 mbps Bandwidth 6. IP - LAN, WAN, broadband Internet 7. Video out to Single Monitor 8. PC /Laptop input via HDMI/DVI port 9. H.239 Dual Video Transmission	1				
2	<b>20 port Multipoint control Unit-20 port 720p HD /10 port full HD</b>	1				

<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories</u></b>						
	1080P/40 ports SD video port or desktop/ Mobile client support with required software and Firewall Traversal support one Port Recording 720p video format					
3	<b>Executive Desktop Video conferencing</b> point to point system with integrated display of minimum 23" size, Codec, HD 720p/1080p camera, Mic , remote control, cables and power supply , The system should be capable of giving HD resolution 720p @60fps.	1				
4	<b>Quad BRI Module</b> for Full HD 1080P Video Conferencing Endpoint	1				
5	<b>PRI Module</b> for 10 port / 20 port MCU	1				
6	<b>Desktop PC</b> with keyboard and Mouse	1				
7	<b>Laptop</b> with Windows 7 OS and Office 2007 Licence	1				
8	Windows 2008/2012 Server Software Licence	1				
9	<b>55 inch LED Display</b> with speaker, remote control, wall mount kit along with all cables	1				
10	<b>65 inch LED Display</b> with speaker, remote control, wall mount kit along with all cables	1				
11	<b>Pedestal Trolley</b> for mounting 32 inch to 55 inch LED Display	1				

<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories</u></b>						
	with the provision to place a Video conferencing system on it under the LED display					
12	<b>27 U</b> Audio -Visual Rack	1				
13	<b>Audio conferencing Phone</b> for Conference meeting works with analog Phone connection.	1				
14	12 Channel Audio Mixer	1				
15	240 Watt Mixer Amplifier	1				
16	30 watt Wall Mount Speaker	1				
17	Handheld Wireless Microphone	1				
18	Wireless lapel Microphone	1				
19	Wired Microphone	1				
20	<b>Cat 6 Cabling</b> with 3/4" inch PVC pipe in meters	1				
21	0.75 Sq mm Microphone Cabling with 3/4" inch PVC pipe in Meters	1				
22	1.00 Sq mm Speaker Cabling with 3/4" inch PVC pipe in Meters	1				

<b><u>Rate Contract for Supply and Commissioning of Video Conferencing System with accessories for Optional items</u></b>					
<b>Part 2 ( B) - (Optional Items) - AMC Charges for 4<sup>th</sup> and 5<sup>th</sup> Year</b>					
S. No.	Description	Qty (in Nos.)	AMC Charges in percentage per annum	AMC charges (in Rs. per annum)	AMC charges for 2 years (In Rs.)
		(F)	(G)	(H)	(I)
1	<b>Set top 720P HD Video conferencing endpoint</b>	1			
2	<b>20 port Multipoint control Unit</b> - 20 port 720p HD /10 port full HD 1080P/40 ports SD video port or desktop/ Mobile client support.	1			
3	<b>Executive Desktop Video conferencing</b>	1			
4	<b>Quad BRI Module</b> for Full HD 1080P Video Conferencing Endpoint	1			
5	<b>PRI Module</b> for 10 port / 20 port MCU	1			
6	<b>Desktop PC</b> with keyboard and Mouse	1			
7	<b>Laptop</b> with Windows 7 OS and Office 2007 Licence	1			
8	<b>55 inch LED Display</b> with speaker, remote control, wall mount kit along with all cables	1			
9	<b>65 inch LED Display</b> with speaker, remote control, wall mount kit along with all cables	1			

**Rate Contract for Supply and Commissioning of  
Video Conferencing System with accessories for Optional items**

10	<b>Audio conferencing Phone</b> for Conference meeting works with analog Phone connection.	1			
11	<b>12 Channel Audio Mixer</b>	1			
12	<b>240 Watt Mixer Amplifier</b>	1			
13	<b>30 watt Wall Mount Speaker</b>	1			
14	<b>Handheld Wireless Microphone</b>	1			
15	<b>Wireless lapel Microphone</b>	1			
16	<b>Wired Microphone</b>	1			

**Note:** In cases of discrepancy between the cost quoted in Words and in Figures,  
the rates indicated by words will be considered.

Signature of the authorised person:

Name of the authorised person:

Designation:

Name and Address of Bidder

Stamp of bidder